

NUFFIELD COLLEGE
SOCIAL RECONSTRUCTION SURVEY

General Editors:

G. D. H. COLE and A. D. LINDSAY

PROSPECTS OF THE INDUSTRIAL AREAS OF GREAT BRITAIN

By M. P. FOGARTY. 32s. net

VOLUNTARY SOCIAL SERVICES: *Their Place in the Modern State*

Edited by A. F. C. BOURDILLON. 16s. net

STUDIES IN INDUSTRIAL ORGANIZATION

Edited by H. A. SILVERMAN. 20s. net

NUFFIELD COLLEGE SOCIAL RECONSTRUCTION
SURVEY COMMITTEE

Professor G. D. H. Cole (*Chairman and Director*); The Master of Balliol; The President of Magdalen; The President of St. John's; The Principal of Lady Margaret Hall; Professor Sir Patrick Abercrombie; Professor A. L. Bowley; Professor G. N. Clark; R. C. K. Ensor; Professor A. G. B. Fisher; G. Montagu Harris; Miss A. Headlam-Morley; Professor D. H. Macgregor; Dr. C. S. Orwin; Miss Margery Perham; Professor J. A. Ryle; C. H. Wilson

**PROSPECTS OF
THE INDUSTRIAL AREAS
OF GREAT BRITAIN**

PROSPECTS OF THE INDUSTRIAL AREAS OF GREAT BRITAIN

by

M. P. FOGARTY

FELLOW OF NUFFIELD COLLEGE

With an Introduction

by

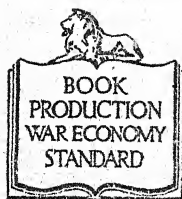
G. D. H. COLE



METHUEN & CO. LTD. LONDON

36 Essex Street, Strand, W.C.2

First published in 1945



THIS BOOK IS PRODUCED IN
COMPLETE CONFORMITY WITH THE
AUTHORIZED ECONOMY STANDARDS

PRINTED IN GREAT BRITAIN

PREFACE

THE present volume is the first of a series embodying some of the results of the Social Reconstruction Survey instituted by Nuffield College, at the request of the Government, at the beginning of 1941. At that stage, most government departments had little or no time to spare for reconstruction problems, and the Minister without Portfolio (Mr. Arthur Greenwood) and the Minister of Works and Buildings (Lord Reith) shared between them the task of making such preliminary preparations for the handling of post-war problems as seemed practicable and necessary. Lord Reith's province was defined as that of 'physical reconstruction', whereas Mr. Greenwood had a more general mandate to take up reconstruction problems in any field. The Nuffield College Survey was set up with the agreement of both Ministers, and with very wide terms of reference, including not only the industrial problems which are dealt with in this volume and in the parallel series of studies of particular industries shortly to be issued, but also the field of social organization, both statutory and voluntary, with which another volume will presently deal.

The method which it was decided to follow was that of local inquiry in particular regions, directed and co-ordinated by a central staff working at Oxford. This method had been tried out in 1940 by Sir William Beveridge and Professor G. D. H. Cole, who were responsible for the local Man-Power Surveys undertaken on behalf of the Government after Dunkirk; and it was decided to recreate a large part of the organization which had been built up for this purpose and use it for the new work. One of us (Professor Cole) took charge of organizing the Survey, and was able to enlist the services of a team of Local Investigators covering most of the principal industrial areas. It was at one time hoped that another academic body might be able to launch a parallel survey of agricultural conditions and prospects; but these hopes were not realized, and the problems of the agricultural areas are touched upon only incidentally in the present study.¹ Certain other areas were also left out, either because investigation in them was peculiarly difficult in time of war, or because suitable teams of Local Investigators could not be found. The Survey was, however, able to cover most of the major industrial districts, thanks to the help which was given, in all cases voluntarily, by men and women—chiefly professors and teachers connected with the Universities or

¹ The Oxford University Agricultural Economics Research Institute was, however, able to carry out, under Dr. C. S. Orwin, an 'intensive' survey of an area in North Oxfordshire; and this has been published by the Oxford University Press, under the title *Country Planning*.

with Adult Education—who were in many cases already heavily burdened with war duties.

We cannot pay too high tribute to the work of these Investigators, carried through without remuneration and often under very great difficulties, or express too strongly our sense of the value of the kind of inter-university collaboration in social and economic research in which the Social Reconstruction Survey has been something of a pioneer effort. We tender our cordial thanks on behalf of Nuffield College to these collaborators, whose work is imperfectly represented in this volume and in those which are to follow it.¹

We say 'imperfectly represented' not in order to throw stones at Mr. Fogarty's drafting, but because in the nature of the case no study that can be published to-day can embody more than a small part of the material that has been gathered together and submitted confidentially to the Government agencies concerned. Much of the Survey's work was necessarily of a highly confidential character; and at many points the wartime black-out of statistical and other information makes it necessary to leave large gaps. Indeed, we have felt it necessary to exclude not only what we know to be technically 'secret' for as long as the war lasts, but a great deal more that could not be satisfactorily presented except in the light of facts which it does not seem permissible or desirable to disclose at present. These limitations necessarily make the work here presented much less vivid as well as less embracing than the much more detailed studies on which it has been based, and they also render it less well balanced than we should have liked it to be, especially where it is dealing with the probable long-run effects of industrial developments initiated during the war.

The limitations upon what could be published also make it necessary to emphasize that for the conclusions reached in this volume and for the selection of the facts included in it the responsibility rests with Mr. Fogarty. We, as editors of the series, take only the most general responsibility; and, while Mr. Fogarty has been aided by the advice of an Industrial Committee in preparing his book for the press, the main burden of choice of facts and of inference from the facts has necessarily rested upon him. Nuffield College, as a research organization in the field of social studies, has no collective opinions: it picks research workers to do particular pieces of work and leaves them free, though not unadvised by their colleagues, to do this work in their own way and to arrive at their own conclusions. Our thanks are due especially to Professors A. L. Bowley and D. H.

¹ A list of the Survey's Local Investigators, and of a few of their principal assistants whose work has been used in preparing the present volume, will be found on pages xxi-xxiv. There are, in addition, many others, not mentioned by name, to whom our thanks are due.

Macgregor, who, as members of the Industrial Committee, have given very great help in sifting and arranging the material for publication. One of us (Professor Cole), as Director of the Survey from its inception up to his resignation in February 1944, has had a somewhat special share in advising upon the form and substance of the more detailed studies from which this volume has emerged, and Mr. P. W. S. Andrews, as Statistician to the Survey, Mrs. Edwards, as Mr. Fogarty's collaborator on the industrial side of the Survey, Mr. H. A. Silverman, who will appear as editor of a subsequent volume, Mrs. Thomson, who prepared the index, and Mrs. Broadley, upon whom has fallen much of the burden of getting the material into order for the press, deserve special mention for the part which they have taken in the work. Indeed, every member of the Staff and Committee deserves our thanks; but those who are singled out for mention no more than others who have helped must be credited with any part of the final authorship.

It is necessary to say a word about the relation of the Nuffield Survey to certain other agencies which have been working in the same field. The County of London Plan was published after our own work in London had been done: our relations with those in charge of it were close and cordial, and we have not hesitated to make use of its results. We have throughout collaborated closely with the West Midland Group on Post-war Reconstruction and Planning; and a part of the work in the West Midlands has been carried out jointly by the two bodies. In the case of Wales, our own Survey followed upon the excellent work done in the Second Industrial Survey of South Wales, published in 1937; and we collaborated closely with the research workers connected with the National Industrial Development Council of Wales and Monmouthshire. Our own four regional Surveys, covering the greater part of Wales, have been used by the Welsh Reconstruction Advisory Council in its recent report. This body was set up after the bulk of our work in Wales had been done; and one of the Nuffield College Investigators, Sir Frederick Rees, is its chairman. It has been the policy of Nuffield College to collaborate in this way to the fullest possible extent with other recognized bodies working in any part of its field; and we believe this mutual assistance has been of great value in preventing unnecessary duplication of effort.

Among the many others, besides the Survey's Local Investigators and the Fellows and Staff of Nuffield College, who have given valuable help in the preparation of the materials for this volume it would be invidious to single out names; but we must mention the great help which has been given by those, from many fields of public and business as well as academic life, who have attended the series of Private Conferences organized under the auspices of the College.

with Adult Education—who were in many cases already heavily burdened with war duties.

We cannot pay too high tribute to the work of these Investigators, carried through without remuneration and often under very great difficulties, or express too strongly our sense of the value of the kind of inter-university collaboration in social and economic research in which the Social Reconstruction Survey has been something of a pioneer effort. We tender our cordial thanks on behalf of Nuffield College to these collaborators, whose work is imperfectly represented in this volume and in those which are to follow it.¹

We say 'imperfectly represented' not in order to throw stones at Mr. Fogarty's drafting, but because in the nature of the case no study that can be published to-day can embody more than a small part of the material that has been gathered together and submitted confidentially to the Government agencies concerned. Much of the Survey's work was necessarily of a highly confidential character; and at many points the wartime black-out of statistical and other information makes it necessary to leave large gaps. Indeed, we have felt it necessary to exclude not only what we know to be technically 'secret' for as long as the war lasts, but a great deal more that could not be satisfactorily presented except in the light of facts which it does not seem permissible or desirable to disclose at present. These limitations necessarily make the work here presented much less vivid as well as less embracing than the much more detailed studies on which it has been based, and they also render it less well balanced than we should have liked it to be, especially where it is dealing with the probable long-run effects of industrial developments initiated during the war.

The limitations upon what could be published also make it necessary to emphasize that for the conclusions reached in this volume and for the selection of the facts included in it the responsibility rests with Mr. Fogarty. We, as editors of the series, take only the most general responsibility; and, while Mr. Fogarty has been aided by the advice of an Industrial Committee in preparing his book for the press, the main burden of choice of facts and of inference from the facts has necessarily rested upon him. Nuffield College, as a research organization in the field of social studies, has no collective opinions: it picks research workers to do particular pieces of work and leaves them free, though not unadvised by their colleagues, to do this work in their own way and to arrive at their own conclusions. Our thanks are due especially to Professors A. L. Bowley and D. H.

¹ A list of the Survey's Local Investigators, and of a few of their principal assistants whose work has been used in preparing the present volume, will be found on pages xxi-xxiv. There are, in addition, many others, not mentioned by name, to whom our thanks are due.

Macgregor, who, as members of the Industrial Committee, have given very great help in sifting and arranging the material for publication. One of us (Professor Cole), as Director of the Survey from its inception up to his resignation in February 1944, has had a somewhat special share in advising upon the form and substance of the more detailed studies from which this volume has emerged, and Mr. P. W. S. Andrews, as Statistician to the Survey, Mrs. Edwards, as Mr. Fogarty's collaborator on the industrial side of the Survey, Mr. H. A. Silverman, who will appear as editor of a subsequent volume, Mrs. Thomson, who prepared the index, and Mrs. Broadley, upon whom has fallen much of the burden of getting the material into order for the press, deserve special mention for the part which they have taken in the work. Indeed, every member of the Staff and Committee deserves our thanks; but those who are singled out for mention no more than others who have helped must be credited with any part of the final authorship.

It is necessary to say a word about the relation of the Nuffield Survey to certain other agencies which have been working in the same field. The County of London Plan was published after our own work in London had been done: our relations with those in charge of it were close and cordial, and we have not hesitated to make use of its results. We have throughout collaborated closely with the West Midland Group on Post-war Reconstruction and Planning; and a part of the work in the West Midlands has been carried out jointly by the two bodies. In the case of Wales, our own Survey followed upon the excellent work done in the Second Industrial Survey of South Wales, published in 1937; and we collaborated closely with the research workers connected with the National Industrial Development Council of Wales and Monmouthshire. Our own four regional Surveys, covering the greater part of Wales, have been used by the Welsh Reconstruction Advisory Council in its recent report. This body was set up after the bulk of our work in Wales had been done; and one of the Nuffield College Investigators, Sir Frederick Rees, is its chairman. It has been the policy of Nuffield College to collaborate in this way to the fullest possible extent with other recognized bodies working in any part of its field; and we believe this mutual assistance has been of great value in preventing unnecessary duplication of effort.

Among the many others, besides the Survey's Local Investigators and the Fellows and Staff of Nuffield College, who have given valuable help in the preparation of the materials for this volume it would be invidious to single out names; but we must mention the great help which has been given by those, from many fields of public and business as well as academic life, who have attended the series of Private Conferences organized under the auspices of the College.

These Conferences have helped us greatly in keeping those who have done the work in close touch with economic realities; and we have pleasure in tendering to them, as well as to the field workers for the Survey, our sincere and appreciative thanks.

NUFFIELD COLLEGE, OXFORD

July 1944

G. D. H. COLE

*Professorial Fellow of Nuffield
College and formerly Director
of the Social Reconstruction
Survey*

A. D. LINDSAY

Sub-Warden of Nuffield College

CONTENTS

	<i>Page</i>
PREFACE	vii
LIST OF TABLES	xv
LIST OF MAPS	xx
LIST OF THE NUFFIELD COLLEGE SOCIAL RECONSTRUCTION SURVEY'S LOCAL INVESTIGATORS	xxi
INTRODUCTION BY PROFESSOR G. D. H. COLE	xxv
<i>Chapter</i>	
I. PROSPEROUS AND DEPRESSED AREAS BEFORE THE WAR	1
Comparison with London and the South-east	
Concealed Unemployment	
Employment at Low Earnings	
The Aim of the Nuffield Survey	
Tables and 3 Statistical Appendices	
II. GENERAL TRENDS IN INDUSTRIAL DEVELOPMENT: PROBABLE PERMANENT EFFECTS OF THE WAR	34
General Effects of the War	
The Abolition of Unemployment	
Changes in the Regional and Industrial Distribution of Incomes	
Migration	
The Adjustment of Industry to the War: Labour	
The Dispersal of Factories	
New Industrial Building	
The Dispersal of Offices	
Travelling to Work	
Probable Degree of Permanence of Wartime Developments	
Migration	
Industrial Organization	
Dispersal of Factories and Offices	
New Industrial Building	
The Attitude of Planning Authorities	
Labour	
Industrial Demobilization	
Long-term Industrial Trends. General Conclusions	
Note on the Estimates of Wartime Industrial Development used on pp. 56-60	
III. WALES AND MONMOUTHSHIRE	87
North Wales	
Central and South-west Wales	
Industrial South Wales	
The Eastern Sector of Industrial South Wales	
(a) The Pre-war Problem	
(b) Changes since 1936: Wartime developments	
(c) Future Prospects	
(d) Possible Policies	

III. WALES AND MONMOUTHSHIRE—*contd.*

The Western Sector of Industrial South Wales

(a) The Pre-war Position

(b) The Future of the Anthracite Belt

(c) The Future of the Coastal Area

The Industrial Areas of Wales—Conclusions

Note on Later Developments

IV. THE INDUSTRIAL AREAS OF SCOTLAND

131

Aberdeen

Dundee

Edinburgh, the Lothians, and Fife

The Clyde

The Future of Scottish Industry—Summary

Note on Later Developments

V. THE NORTH-EAST COAST

167

Unemployment: the Pre-war Industrial Structure

The Impact of Depression on Different Districts

Pre-war Efforts at Adjustment: Inadequacy of Official Action

Immediate Effects of the War

The Outlook for the Future: Dependence on the Heavy Industries: Coal

Shipbuilding and Marine Engineering

The Main Districts

The Probable Level of Unemployment

Regional and Industrial Planning

Introduction of New Industries—Aims and Methods

Use of the Royal Ordnance Factories

Note on Later Developments

VI. WEST CUMBERLAND

193

The Pre-war Depression

The Process of Adjustment: Effects of the War

Prospects: the Traditional Industries

The Newer Industries

Economic Prospects: Conclusions

Planning, Transport, and Housing

Note

VII. LANCASHIRE

202

(1) Lancashire as a Whole

(2) Barrow

(3) The Board of Trade Survey Area

The Fylde Area

The Cotton Districts

The Coal and Chemical Area

Metropolitan Lancashire

(4) Merseyside

(5) Lancashire as a Whole—Conclusions

*Chapter**Page*

VIII. THE WEST RIDING

241

West Yorkshire

South Yorkshire

The West Riding—Conclusions

IX. THE HUMBER PORTS

266

Hull

Grimsby

Goole

Selby

Future Prospects—General Comparison

X. THE EAST MIDLANDS

286

Northamptonshire

Leicestershire

The Industrial Areas of Nottinghamshire, Derbyshire, and
Lincolnshire

(a) The Industrial Structure of the Three Counties

(b) The Problems of Lincolnshire and East Nottinghamshire

(c) The Industries of the Central Industrial Area

(d) The Central Industrial Area—the General Prospect

(e) The Minor Industrial Areas

The East Midlands as a Whole

XI. STOKE-ON-TRENT AND DISTRICT

324

The Pre-war Position

Prospects—the Established Industries

The New Industries and the Service Trades

XII. THE WEST MIDLANDS

333

The Western Counties

Birmingham, Coventry, and the Black Country

The Cannock Chase and Warwickshire Coalfields

Kidderminster

The West Midlands as a Whole

XIII. THE SOUTH-WEST

359

The Stroud Valley and the Forest of Dean

Bristol

Devon and Cornwall

(a) Plymouth

(b) Devon outside Plymouth

(c) Cornwall

XIV. THE SOUTH-EASTERN COUNTIES

389

Light Industry and the Service Trades: the Home Counties

The Course of Development before the War

The Problems of Pre-war Development

The War: Post-war Problems

Southampton and Portsmouth

London Industries before the War	
Industrial and Planning Problems	
Effects of the War—General	
Impact of the War on Particular Districts: Local Problems	
The Need for an Industrial Plan	
The Realization of a Plan—Administrative Problems	
Note on the Greater London Plan	

XVI. CONCLUSIONS

451

Assumptions of the Survey	
The Need for Comprehensive Planning Machinery	
The Statistical Background	
The Employment of Women	
Probable Extent and Location of Persistent Excess Unemployment	
Localized Unemployment: Prospects of a Solution in the Industrial Conditions Assumed by the Survey: Control of the Location of Industry	
(a) The Trend of Industrial Development	
(b) Migration	
(c) New Industrial Development Due to the War	
(d) The Machinery for Controlling the Location of Industry	
The Trade Cycle and the General Level of Demand	
Exports	
Stabilization or Temporary Maintenance of Older Industries : The Organization of Industry	
The Need for Immediate Action	
Note on Later Developments	

INDEX

474

LIST OF TABLES

CHAPTER I

	<i>Page</i>
1. Increase in the Number of Insured Workers and in the Number of Insured Workers in Employment, 1923-37	3
2. Average Annual Gains or Losses on Account of Migration (Total Population), Ministry of Labour Divisions (as defined down to 1936)	4
3. General and Excess Unemployment in Great Britain, 1929-37	5
4. Average Earnings of Adult Male Wage-Earners in the last Pay-Week of October 1938	11
5. Estimated Numbers of Persons, aged 16-64, Insured and Employed, 1923-37	14
6. Workers Insured against Unemployment. Regional Changes in Numbers Insured, 1923-37	16
7. Average Annual Gains or Losses by Migration (Total Population) Great Britain: Counties, 1927-31 and 1931-6	18
8. Unemployment in the Counties of Great Britain, 1927-38. (Percentage of Insured Workers Unemployed) (Monthly Average)	<i>Between pages 18-19</i>
9. Unemployment in the Counties of Great Britain, 1927-38. (Excess or Deficit of the Percentage Unemployed in Each County over the Percentage Unemployed in the Ministry of Labour's London and South-eastern Divisions) (Monthly average)	<i>Between pages 18-19</i>
10. Prolonged Unemployment among Insured Men, aged 18-64, Great Britain	19
11. England and Wales: Registration Counties, 1931: Percentage Occupied (including Retired) of all Females aged 15 and over	20
<i>Appendix I.</i> Areas Scheduled as Depressed by the Ministry of Labour	22
<i>Appendix II.</i> Population Statistics, 1931-8. Counties, County Boroughs, and Certain Other Areas	26
<i>Appendix III.</i> Statistics of Unemployment, 1929-37. County Boroughs and Certain Other Areas	31

CHAPTER II

12. Average Percentage Increase in Weekly Earnings between October 1938 and July 1943	36
13. Bank of England. Index of Value of Retail Sales. May-July, 1940 and 1943	38
14. Distribution of the Population of Great Britain by Regions	42
15. Mobilization of Man-power in Great Britain	46
16. Development Projects in Great Britain, September 1939 to June 1941	54

CHAPTER III

17. Wales. Numbers Recorded as Employed at the Census of Production, 1930 and 1935	88
18. Estimated Age Structure, 1938. (Glamorgan, Monmouth, Brecon, and Carmarthen)	97
19. Distribution of Population, Migration and Unemployment. Eastern Sector of Industrial South Wales, 1929-38	98
20. Eastern Sector of Industrial South Wales: Percentage of the Insured Population in Certain Industries	100
21. (a) The Cardiff and Barry Area. Estimated Numbers Insured, July 1938	101
(b) The Newport Area	102
(c) The Valleys and the West Central Area	102
22. Relation of New Industrial Development to Pre-war Unemployment	110
23. Percentage of Insured Population in each Industry in Certain Districts: Western sector of Industrial South Wales	116
24. Average Annual Loss of Population by Migration (Net Balance), 1921-38	116
25. Employment and Unemployment in Anthracite Mining: Western Sector of Industrial South Wales	118

CHAPTER IV

26. Aberdeen Exchange Area: ¹	133
27. Dundee: ¹	138
28. Rate of Increase of Population in Certain Counties of Scotland, 1931-8	143
29. Industrial Structure of Edinburgh, the Lothians, and Fife, 1938	144
30. Edinburgh, Leith, and Portobello: ¹	146
31. Scotland (West Central District). Number Recorded as Employed at the Census of Production	152
32. Glasgow: ¹	156

CHAPTER V

33. Excess of Unemployment in Northumberland, Durham, and the North Riding over the National Level, 1929-37	168
34. Changes in the Numbers and Distribution of Insured Workers aged 16-64 on the North-east Coast	169
35. Output of Iron and Steel on the North-east Coast, 1913-37 (Tons)	170
36. Changes in Numbers and Distribution of Insured Workers (16-64) in the Minor Industries and Services on the North-east Coast	172
37. Newcastle-on-Tyne: ¹	175
38. Sunderland: ¹	177

CHAPTER VI

39. Total Number of Persons Insured, Unemployed and Employed under the Unemployment Insurance Acts in West Cumberland Special Area, 1924-37	194
---	-----

¹ Estimated Number of Insured Workers aged 16-64, July 1923 and July 1937.

	<i>Page</i>
40. Total Number of Males and Females in Employment, 1924-37, West Cumberland	194
41. The Contracting Industries. West Cumberland	194
42. The Expanding Industries and Services. West Cumberland	195

CHAPTER VII

43. Lancashire: ¹	204
44. Insured Workers in 1929: Barrow Exchange Area	209
45. Lancashire: Board of Trade Survey Area. Changes in Number of Insured Workers, 1925-34	211
46. Population Changes, 1921-38. Board of Trade Survey Area	212
47. Unemployment Among Insured Workers: Percentage: Monthly Average, 1938	214
48. Numbers Engaged in Certain Trades, per 1,000 of Occupied Population, Census of 1931	214
49. Percentage of all Insured Workers in Each Area who were Engaged in the Cotton Industry in 1930	216
50. The United Kingdom Cotton Industry, 1912-38	217
51. Fall in Exports of Cotton Piece Goods, 1913-37	219
52. Long-term Estimates of Probable Output and Employment: Cotton Industry	222
53. Manchester and Salford: ¹	231
54. Employed Insured Workers, Merseyside, 1939	233
55. Merseyside: Insured Workers Employed in Certain Industry Groups, 1939	234
56. Insured Workers on Merseyside	235

CHAPTER VIII

57. Census of Production, 1935: Employment in the West Riding	241
58. Estimated Numbers of Insured Persons aged 16-64 in the Chief Towns of West Yorkshire. Percentage Change, 1924-35	245
59. Economic Structure of Leeds and Bradford, 1923-37	246
60. Average Earnings of Adult Men in One Week in October, Woollen and Worsted Industry, Great Britain	248
61. Production and Consumption of Woollen Goods, Great Britain, 1924-37	249
62. Changes in the Estimated Numbers of Insured Workers in Employment in the Woollen and Worsted Industries, 1923-38	250
63. Sheffield: ¹	258

CHAPTER IX

64. Population of the Humber Ports	266
65. Trade of the Humber Ports	267
66. Trade of Hull, 1935-37	269
67. Insured Persons, 14-64, excluding those attached to Agriculture, whose Unemployment Books were Exchanged during July 1939 at the Employment Exchanges at Hull, Grimsby, Goole, and Selby, and in the United Kingdom as a whole	271

¹ Estimated Number of Insured Workers aged 16-64, July 1923 and July 1937.

	<i>Page</i>
68. Hull ¹	272
69. Trade of Grimsby, 1935-7	275
70. Trade of Goole, 1935-7	278
71. Percentage of Insured Workers Unemployed, Hull, Grimsby, Goole, and Selby	282

CHAPTER X

72. Census of Production, 1935. Persons Employed in Certain Industries: East Midland District	288
73. Population Changes and Migration: East Midlands, 1931-8	290
74. Industrial Distribution of Insured Workers, aged 14-64, in Northamptonshire, July 1939	291
75. Northamptonshire. Geographical Distribution of Insured Boot and Shoe Workers, July 1939	292
76. Output of Iron Ore, Iron, and Steel: Northamptonshire and Great Britain	297
77. Leicester ¹	301
78. Nottinghamshire, Derbyshire, and Lincolnshire. Proportion of All Occupied Persons (excluding those Out of Work) in Each Industry. Census of 1931	310
79. Nottingham ¹	231

CHAPTER XI

80. Stoke-on-Trent ¹	325
---------------------------------	-----

CHAPTER XII

81. Herefordshire, Shropshire, and South Worcestershire. Proportion of All Occupied Persons (excluding those Out of Work) in Each Industry. Census of 1931	335
82. Birmingham and the Black Country. Industries Localized in Certain Areas, Third Quarter of the Nineteenth Century	341
83. Birmingham ¹	342
84. Coventry ¹	344
85. Development of the Main Manufacturing and Extractive Industries of the Black Country, 1935-8	348
86. Cannock Chase and North Warwickshire Coalfields. Proportion of all Occupied Persons (excluding those Out of Work) in Certain Industries, Census of 1931	354

CHAPTER XIII

87. Bristol, Forest of Dean, and Stroud Valley Areas: Percentage of Insured Workers in Each Group of Industries, 1938	360
88. Bristol ¹	365
89. Trade of the Port of Bristol	366
90. Devon and Cornwall. Proportion of all Occupied Persons (excluding those Out of Work) in Each Industry, Census of 1931	371
91. Plymouth ¹	372

¹ Estimated Number of Insured Workers aged 16-64, July 1923 and July 1937.

CHAPTER XIV

92. Unemployment and Immigration, South-eastern Counties	390
93. Census of 1931. Distribution of the Working Population between Industries: Proportion in each Category per 1,000 of the Population, aged 14 and over	391
94. Luton: ¹	394
95. Slough: ¹	396
96. Oxford Survey Area: Percentage of All Insured Workers aged 16-64 engaged in each Industry Group, 1937	397
97. Oxford: Percentage of Insured Workers Unemployed in the Motor, Cycles, and Aircraft Group. Third Monday of each Month, 1934-7	402
98. Estimated Number of Insured Persons, aged 16-64 July 1923 and July 1937 (Portsmouth and Southampton)	411

CHAPTER XV

99. Greater London: Industrial Distribution of Insured Workers aged 16-64, 1938	421
---	-----

¹ Estimated Number of Insured Workers, aged 16-64, July 1923 and July 1937.

LIST OF MAPS

- I SURVEY CENTRES AND AREAS COVERED BY THE
NUFFIELD COLLEGE SOCIAL RECONSTRUCTION
SURVEY *Frontispiece*
- II AVERAGE ANNUAL GAIN OR LOSS BY MIGRATION
IN PER CENT OF POPULATION *Between pages 4-5*
- III RELATIVE UNEMPLOYMENT *Between pages 4-5*
- IV INDUSTRIAL SOUTH WALES: SUB-DIVISIONS OF THE
EASTERN SECTOR AND BOUNDARY OF THE
ANTHRACITE COALFIELD *Page 99*
- V LANCASHIRE: PERCENTAGE OF INSURED WORKERS
UNEMPLOYED, SEPTEMBER 1936, AND BOUN-
DARIES OF SURVEY SUB-AREAS *Page 208*

LIST OF THE NUFFIELD COLLEGE SOCIAL RECONSTRUCTION SURVEY'S LOCAL INVESTIGATORS AND A FEW OF THEIR PRINCIPAL ASSISTANTS FOR INDUSTRIAL SURVEYS

ENGLAND

<i>Centre</i>	<i>Approximate Area Covered¹</i>	<i>Investigators</i>
BIRMINGHAM	Warwickshire, South Staffordshire, Worcestershire, Herefordshire, Shropshire	Professor P. Sargant Florence (Professor of Commerce, University of Birmingham), assisted by Miss E. Denby, Miss J. Glaisyer, Mr. A. Shenfield, and Mr. Clive B. Williams.
BRISTOL	South Gloucestershire, Somersetshire	Professor W. Hamilton Whyte (Professor of Economics, University of Bristol), assisted—for the Stroud Valley—by Mr. Michael Young and Mr. I. C. Bell.
CORNWALL	Cornwall	Mr. F. L. Harris (Workers' Educational Association), assisted by Miss P. M. Angove. Mr. S. A. Opie submitted a memorandum on <i>The Camborne-Redruth Mining District</i> .
CUMBERLAND AND WESTMORLAND	Cumberland, Westmorland	Mr. G. H. J. Daysh (Reader in Geography, King's College, Newcastle-upon-Tyne).
DARTINGTON	Devonshire	Mr. C. C. Martin (Administrator, Arts Department, Dartington Hall, Totnes), who died in August 1944, assisted by Mr. A. P. Cox and Mr. Michael Young.
HULL	East Riding	Mr. R. K. Kelsall (Acting Head, Department of Economics, University College, Hull).
LEEDS	Coal and wool district of West Yorkshire (i.e. excl. Sheffield area)	Professor J. H. Richardson (Montague Burton Professor, Department of Economics, University of Leeds) from February to October 1941, and thereafter Professor J. H. Jones (Professor of Economics, University of Leeds).

¹ Not all the areas mentioned were covered in full.

<i>Centre</i>	<i>Approximate Area Covered</i>	<i>Investigators</i>
LEICESTER AND NORTHAMPTON	Leicestershire, Northamptonshire	Leicestershire: Mr. H. A. Silverman (Head of Department of Adult Education, University College, and Director of Vaughan College, Leicester); assisted for Northamptonshire by Mr. Frank Lee (Resident Tutor in Northamptonshire for the Board of Extra-Mural Studies, University of Cambridge).
LIVERPOOL	Merseyside	Mr. D. Caradog Jones (Reader and Leverhulme Lecturer, Social Science Department, University of Liverpool), assisted by Mr. Wilfred Smith and Mr. Charles Owen.
LONDON	Greater London Civil Defence Region	Mr. G. R. Mitchison (Barrister-at-Law), assisted particularly by Mr. C. J. Holloway, Mr. P. J. Self, and Mr. R. S. Hope.
LUTON	Luton district	Mr. Frank Gardner (Borough Librarian), assisted by Dr. J. G. Dony.
MANCHESTER	Industrial areas of Lancashire (excl. Merseyside), including parts of Cheshire, Derbyshire, and Yorkshire	Mr. T. S. Ashton (Reader in Currency and Finance, Department of Economics and Commerce, University of Manchester) until March 1942, and thereafter Dr. K. G. Fenelon (Director of Department of Industrial Administration, College of Technology, University of Manchester).
NEWCASTLE- UPON-TYNE	North-east Coast	Mr. H. E. R. Highton (Lecturer in Economics and Head of Extra-Mural Department, King's College, Newcastle-upon-Tyne) and Mr. Edward Allen (Lecturer in Economics, King's College, Newcastle-upon-Tyne).
NORWICH	East Anglia	Mr. N. R. Tillett.
NOTTINGHAM	Nottinghamshire, Derbyshire, Lincolnshire	Mr. A. Radford (Reader in Economics and Commerce and Head of Department, University College, Nottingham), assisted by Dr. F. A. Wells and Mr. K. C. Edwards.

<i>Centre</i>	<i>Approximate Area Covered</i>	<i>Investigators</i>
OXFORD	Oxfordshire, Berkshire, Buckinghamshire	Mr. G. E. Fasnacht (Secretary, Nuffield College Social Reconstruction Survey), assisted by Mr. Y. Smythies and Mrs. G. E. Fasnacht.
SHEFFIELD	Coal, Iron and Steel district of South Yorkshire	Mr. E. Fisher (Workers' Educational Association), assisted, for the Rotherham area, by Mr. F. Machin.
SOUTHAMPTON	South Hampshire and parts of the Isle of Wight	Mr. J. H. Matthews (Workers' Educational Association).
STOKE-ON-TRENT	Stoke-on-Trent, Newcastle and district	Mrs. C. R. Morris (Hon. Sec. North Staffordshire Association of Social Service Clubs and Citizens' Advice Bureaux) assisted by Miss M. Forsyth.
SUSSEX	East Sussex, West Sussex	East Sussex: Miss E. M. Foster. West Sussex: Mr. J. R. Armstrong (Workers' Educational Association).
WELWYN	Hertfordshire (outside Greater London)	Dr. E. R. Roper Power, assisted by Mrs. Harten.

SCOTLAND

ABERDEEN	Aberdeenshire: Kincardine	Dr. H. Hamilton (Lecturer, Department of Economic History, University of Aberdeen).
DUNDEE	Angus	Mr. J. C. Gilbert (Lecturer in Economics, School of Economics, Dundee) until July 1941, and thereafter Miss I. E. P. Menzies (Department of Economics, University of St Andrews), assisted by Miss D. M. Tulloch.
EDINBURGH	Fife and the Lothians	Dr. Mary Rankin (Lecturer, Department of Commercial and Political Economy and Mercantile Law, University of Edinburgh).
GLASGOW	West Central district of Scotland (the Clyde area)	Mr. J. Cunnison (Lecturer in Social Economics, University of Glasgow), assisted in respect of the iron and steel industry by Mr. E. Doran. Several chapters of Mr. J. R. Bellerby's <i>Economic Reconstruction</i> , bearing on the problems of South-west Scotland, were placed at the Survey's disposal while in draft.

WALES

<i>Centre</i>	<i>Approximate Area Covered</i>	<i>Investigators</i>
ABERYSTWYTH	Central Wales	Mr. P. George (Lecturer in Economics, University College of Wales, Aberystwyth).
BANGOR	North Wales	Professor J. Morgan Rees (Professor of Economics, University College of North Wales, Bangor), assisted by Mrs. M. F. Lloyd Prichard.
CARDIFF	Eastern sector of industrial South Wales	Sir Frederick Rees (Principal, University College of South Wales and Monmouthshire, Cardiff), assisted by Mr. L. N. Hopper.
SWANSEA	Western sector of industrial South Wales	Mr. P. S. Thomas (Senior Staff Tutor, University Extension, University College of Swansea) until he died in April 1941, and thereafter Mr. D. Trevor Williams (Lecturer in Geography, University College of Swansea).

Co-ordinating Investigator for Wales: Sir Percy Watkins.

INTRODUCTION

EARLY in 1941, at the request of Mr. Arthur Greenwood and Lord Reith, the Ministers then in charge of reconstruction and of physical planning, the Nuffield College Social Reconstruction Survey set out to make a study of the post-war economic prospects of the main industrial regions of Great Britain. The Survey as a whole covered social as well as economic prospects: it was concerned with the patterns of community living and social service as well as with questions of industrial and commercial development. It was, however, plain from the outset that the social and demographic prospects had to be considered in the closest possible relation to the economic. Men must live where they can find the means of livelihood near at hand; and though it should be possible, to a very large extent, to bring the work to the people instead of moving the people to the work, no one in his senses would propose to set about doing this without making, beforehand, a careful study of the suitability of different areas for different types of economic development, or without asking where industries would tend to settle if nothing were being done to control or to influence their location.

We began our Survey at a time when almost nothing was known about the Government's intentions in matters of post-war policy; and in relation to the matters dealt with in this volume not much more was known when, near the end of 1943, we finished our field work and settled down to the writing up of its results. The present volume was practically finished when, in the spring of 1944, the White Paper on *Employment Policy* was published, and the general outline of the Government's projects for affecting the location of industry was made known. We had therefore to work from the first almost to the last in ignorance of any official plans—for there were none; and in these circumstances there was only one thing for us to do. Our aim being to make an objective study of facts and tendencies that would be useful whatever policies the Government might adopt, the obviously best course was to ask ourselves what, in each area, would be most likely to happen after the war if economic affairs were to be left to the operation of private economic forces to much the same extent as between the wars, and if accordingly such pre-war trends as would seem likely to persist in the absence of special measures designed to deflect them were to resume their course. We had, of course, to inquire also what new trends were likely to appear, and how pre-war trends were likely to be modified, quite apart from government action, and what effects all these factors could be

the utilization of wartime industrial developments in the service of normal production. In effect, we set out to discover, as far as we could, whether, in each of the areas surveyed, there seemed likely to be after the war, on this assumption and in the absence of any special measures of government planning and control, either an excess or a deficiency in the total openings for employment, and either a reasonable balance or a lopsidedness in the character of these openings in relation to the make-up of the local supplies of labour and to the liability of the local industries to fluctuations in their employing capacity.

Of course, none of these questions admitted of a categorical answer. An excess or deficiency in the openings for employment in any area depends not only on the industries which settle in it but also on the general state of demand for the products of all industries; and the liability of any set of local industries to a fluctuation in activity depends not only on what industries they are but also on the extent of the general fluctuations to which the economic system is liable. Areas which depend largely on exports are subject to ups and downs arising not only out of general fluctuations over the world as a whole, but also out of the national policies of other countries. Finally, no forecast of employment prospects in any particular area is immune from being upset by technical change, which may either render a whole industry obsolete or alter radically the conditions affecting its location or its demand for labour.

It is, then, out of the question to prophesy absolutely what the economic position of any area would be in the absence of any deliberate intervention designed to influence its industrial structure. It is, however, possible to take account of probable tendencies, and to arrive at reasonable estimates of probabilities in a good proportion of the cases. In a broad sense, we can feel fairly certain that the trends of post-war consumption will not be altogether different from the inter-war trends, and on this basis we can reckon with fair safety that industries which showed a marked tendency to expand between the wars will in most cases resume their expansion when the war is over. It would be absurd to expect the production of motor vehicles, or electrical apparatus, or printed matter to suffer a sudden arrest of development, or, to take a wider group, to anticipate a check to the spread of mass-production of light consumers' goods. In some cases, it is safe to go further, and to look forward confidently to an expansion which will proceed not merely at the pre-war rate, but a good deal faster. Aeroplanes are an obvious instance; and so, in face of the arrears that will have to be made up, are building, the production of builders' materials, and the various branches of house-furnishing and equipment. These trends are in fact so obvious that there is a danger, in the absence of planning on a national scale, of

far too many employers trying to switch over to a few trades which are bound to expand, and thus producing a glut of certain types of consumers' supplies, particularly in the groups based on light engineering, side by side with a shortage of others.

On the other side, it would be unrealistic to expect, save in the very short run, a reversal of the declining tendency in the cotton industry, or at any rate a substantial lasting recovery of the markets lost between the wars; and it is no less evident that we cannot look to the coal industry to resume the rapid expansion of its employment-capacity which, characteristic of it up to 1914, was sharply reversed between the wars.

A study of the inter-war employment history of the main regions of Great Britain showed certain very clear trends, and an attempt has been made in this book to measure these trends by using the concept of 'excess unemployment'—that is, of the extent to which local unemployment in each region exceeded or fell short of the average level of unemployment, in good and bad years, over the country as a whole. This method suffices to mark out not only the large regions of heavy unemployment which have been designated as the 'Special Areas', but also a good many smaller places, some of them situated in the middle of relatively prosperous regions, in which unemployment was usually well in excess of the national average. It also serves to bring out the differences between areas which have been particularly liable to cyclical fluctuations in their employment-capacity and those in which, even though the local industries are not specially subject to cyclical influences, there is persistent heavy unemployment; and at the same time it shows where the two kinds of unemployment are found together.

It is of course necessary, in estimating the post-war prospects of the various areas, to take account of what has happened to them during the war as well as of pre-war trends. The war has emptied some places of a substantial part of their pre-war industries, and has filled up the gap with war production or with industries evacuated from other areas. In some districts huge war factories have been built—some fairly close to existing industrial centres, and others remote from large towns—some fairly easily adaptable to peace-time production, and others usable, if at all, only as sites because of the unsuitability of most of their buildings for normal occupation. In some parts of the country a great deal will depend on what is done with these big factories, which the Government in its White Paper on *Employment Policy* announces its intention to sell or lease; and in a good many small towns the prospects of post-war employment depend very largely on decisions still to be taken, or at any rate still to be announced, by firms which have set up factories in them under wartime schemes of dispersal or evacuation from more vulnerable

districts. The wartime pattern of industrial development will necessarily influence the post-war pattern; and because of it pre-war trends will not be exactly resumed in any area. But, in the absence of deliberate re-planning, it seems unlikely that this factor will be of more than secondary importance in most regions, though there are particular places in which it is likely to be of primary importance in any event.

By the exercise of mere common sense it is possible to make reasonable allowance for the effects of wartime changes and to arrive at a fairly good idea of the relative prospects of each of the main areas, on the supposition that no action is taken by the Government to influence them either by controlling the location of industry or by any other method that is open to it. The adoption of this first line of approach is therefore convenient, as pointing, not only to the principal black and white spots, but also to the high improbability that the uncontrolled action of economic forces can within any reasonable period bring about a condition of reasonable balance in the demand for labour either between areas or within them. It is hardly open to doubt that, if nothing were done to influence the location of industries, the pre-war contrasts between prosperous and depressed areas would reproduce themselves, though the areas in the two categories might not be in all cases the same, or that, within areas, there would be in many instances a serious lack of balance in relation both to the composition of the available labour supply and to the vulnerability of the local industries to the impact of depressions originating either at home or abroad. The facts and tendencies surveyed in each region strongly support the argument that industry cannot be left to plan its own location without any general guidance—or rather that, if it is so left, local excesses and deficiencies of suitable labour will be certain to appear and to cause unemployment even if the general level of demand is high.

A second conclusion also emerges clearly from these regional surveys. No confidence can be felt that, if economic activity is left to find its own level, the rising demand for labour by the more prosperous industries and areas will be large enough to use up the surplus from other industries and areas, or would be large enough even were there no obstacles to complete occupational and geographical mobility. It cannot, of course, be said categorically that there would not be a sufficient aggregate demand—or at all events this cannot be said simply as a conclusion from a series of regional studies. What can be said is that, on the basis of the expectations entertained in the various regions, there is no good reason for supposing that the relatively prosperous areas would be in a position to import enough labour to take up all the surplus of the relatively depressed.

It would, indeed, be surprising if this were not the position. The view that special measures, for which the Government must make itself responsible, are necessary in time of peace in order to ensure an adequate total demand for labour is now not only held by most economists, but officially accepted as the Government's own policy; and clearly the adoption of this policy involves in itself a substantial upward revision of estimates of the regional demands for labour made on the assumption of *laissez-faire*. If a policy of 'full employment', or even one of 'high and steady employment'—the phrase which the Government prefers—is adopted and carried into effect, every area and every industry will stand to gain by it. If, however, the Government were to limit itself to measures designed to maintain the global demand for labour at a high level, without attempting to influence either the character or the location of the employment provided, industries and areas would evidently gain to very different extents, and in particular acute labour shortages, or shortages of the right kinds of labour, would arise in some areas even while unemployment on a large scale continued to exist in others. Balance could be achieved in such a situation only by labour migrations of a magnitude which would involve acute social disturbances, even if they could be brought about at all. There is ample evidence from the past that labour is very much more mobile between occupations than between areas, and that occupational transference, eased as it is by retirements and the arrival of new generations of entrants to industry, involves much less hardship than geographical migration. The Government's White Paper on *Employment Policy* implicitly recognizes this, and accordingly puts forward proposals for influencing the location of industry as well as for maintaining the total demand for goods and services at an adequate level. It may be doubted whether the measures proposed with this object are strong enough to achieve what is required. But the principle, at all events, has been admitted; and that is a big first step away both from the traditional ideas of 'free enterprise' and from the notion that all can be put right by a simple resort to measures of monetary manipulation.

Given 'full employment', or a near approach to it—given, that is, national expenditure, public and private, on a scale sufficient to employ all the available resources of production—demand for the products of industry will be expanded all along the line. The nature of the expansion will of course depend on the forms in which the demand is maintained. To the extent to which private consumers get higher real incomes, they will tend, other things being equal, to expend most of the increase, apart from what they save, on the kinds of consumers' goods and services which showed the highest pre-war expansibility of demand. Other things, however, may not be equal. In the absence of control, a rise in consumers' incomes would tend to

increase sharply the demand for imports, at any rate unless there were a sharp advance in the prices of imported as against home-produced goods. Increased imports may, however, be limited by the shortage of foreign exchange for buying them; and a part of the larger consumers' demand may thus be diverted to home products. To the extent to which this happens, pre-war trends will be altered, in much the same way as they were altered by the depreciation of sterling and the imposition of a tariff on imports after 1931. But neither the character nor the extent of such alterations can be known in advance of decisions which have still to be taken, both here and in other countries, about future commercial policy, or until it becomes possible to speak with more confidence than now about the future relative levels of import and export prices.

To the extent to which full employment involves an increase in home investment, this increase will tend to go either to the making of capital goods for those consumers' industries and services which show the greatest expansion of demand, or to public, or publicly stimulated, investment in industries and services which the Government decides to foster—e.g. house-building or the supply of pure milk. To the extent to which more goods are exported to pay for imports, the increase will be determined by the forces of world demand, or of demand in the particular overseas markets in which British goods are chiefly sold. Finally, to the extent to which there is an export of capital, there will be a stimulus to the industries which produce capital goods needed by developing countries and also to those which produce consumers' goods for export—for it is a fallacy to suppose that the 'export of capital' necessarily takes the form of an export of capital goods.

A policy of full employment will obviously affect the various areas differently according to the relative strength of these forces of expansion. To take an extreme case, if Great Britain were to set out after the war to become self-sufficient in food supplies, so as to dispense with food imports, a powerful stimulus would be given, not only to employment on the land, but also to the food-processing industries; and the optimum location, as well as the size, of many of these industries would be much affected. There would be at the same time a decline in the demand for British exports on the part of the food-producing countries; and this would adversely affect the areas in which the exporting industries are carried on. The ports would also be greatly affected, and the balance between town and country would be substantially altered. I am not suggesting that so extreme a policy is in the least likely to be followed, but merely using a simple illustration to show how greatly the balance between areas is influenced by national and international policies.

Any attempt to plan the location of industry—that is, to establish

a local distribution of employment different from that which would result from leaving private economic forces to take their own course—must clearly be made in the light of such national economic policies as affect the total size of the various industries and their place in the national economy as a whole. At any rate, this must be the basis of any plan of which the aim is to bring about a balanced system of full employment. It is of course possible, short of this, to make piecemeal plans for increasing the level of employment in particular areas, either by holding out general inducements to business men to locate in them any industries they please, or by inducing particular employers to settle in them, without reference to any general pattern of location. This was done to some extent before the war, by the setting up of Trading Estates, by directing refugee firms into the depressed areas, and by arranging, during the period of rearmament, for war factories to be built in these areas. But this policy was not only on too small a scale to produce really significant results: it was also unplanned, in the sense that it did not rest on any considered judgment about the right location of industries up and down the country, but merely on a desire to attract any sort of industry into areas in which there was an evident shortage of jobs.

No doubt, the attraction of complementary industries into areas in which the existing industries are declining or are inadequate to employ the available population is a highly desirable thing, and forms a necessary element in any policy of control over location. It does not, however, by itself constitute a location policy, even if it is supplemented by measures designed to check the settlement of industries in areas which are in danger of over-expansion. As soon as the objective of full employment is accepted, the problem of location becomes one of right adjustment of industry and employable population over the country as a whole, and not merely in a limited number of 'problem' areas. There is, *ex hypothesi*, under conditions of full employment nowhere any surplus labour which the country can afford to waste; for under such conditions there are at least as many vacancies needing to be filled as there are workers looking for jobs. Such a condition of the labour market demands a much more exact 'fit' in each area than need be aimed at when there is a surplus of workers to be left idle. It becomes necessary to balance the local openings for employment carefully against the local supplies of labour, not merely in aggregates, but with regard to the relative demands for skilled and less skilled, male and female, adult and juvenile workers. This needs to be done, not only in the 'black spots', but everywhere, at least as far as all new developments are concerned.¹

¹ This is a problem which needs further study, as well as action. There ought to be comprehensive local surveys of the various areas in respect of the probable post-war composition of their labour force, from the standpoint of sex, age, and degrees and types of skill and suitability for different kinds of employment.

It is simply out of the question, if full employment is to be successfully maintained, to leave it to employers to put their new factories or extensions where they please; nor is it enough simply to try to entice them into areas in which additional industries are needed. The kinds of industry that are to be encouraged or discouraged in any area call for careful consideration. The problem is less difficult, and on a smaller scale, in areas which start with a reasonably high level of openings for employment and with a reasonably satisfactory balance than it is where these conditions are wanting; but it exists everywhere. This is not to say that, under a system of private enterprise, employers should be ordered to set up factories in a particular place. They can be left plenty of room for choice; but they cannot be allowed to escape all regulation merely by going to a 'neutral' area—that is, to one which suffers from neither a marked global deficiency nor a marked global excess of openings for employment.

The need for making the 'fit' as exact as possible in all types of area involves a necessity for close consultation between the Government and all the local and regional agencies concerned. In the White Paper, local authorities seem to be regarded mainly as means for the carrying out of public works; and there is no mention of other agencies, such as Development Councils, representing both the local authorities in particular regions and the employers', traders' and workers' organizations. Mr. Fogarty, in his conclusions, lays considerable stress on the part which such bodies can play in the working out of practical location policies; and it is disappointing to find that the White Paper has nothing to say about them. There is, indeed, in the White Paper a marked lack of clarity about the administrative and consultative machinery that will be needed, both nationally and locally, to implement an effective policy of control over the location of industry.

The actual forms which the expansion of economic activity accompanying a policy of full employment will take will depend on the economic pattern to which the policy has to conform; and the Government, in accepting the responsibility for maintaining total employment, is also by implication accepting responsibility for the design of this pattern. Any measures which it takes for the encouragement of home agriculture, for the protection of home industries, for the negotiation of commercial treaties and other international trade arrangements, or for the regulation of overseas investment are parts of the process of cutting the pattern; and so are any 'public works' policies (including housing policies) that it adopts, and any measures designed to alter the distribution of incomes or to affect the ratio between investment and expenditure on current consumption. Even if the Government does nothing to influence the consumer's choice in spending his income, by making particular goods or services

artificially cheap or dear (and in fact it always does something in these ways), it is possible to predict with some degree of accuracy on what goods and services consumers will spend any additional incomes that come their way; and the pattern of industrial development must be made to conform to these estimates in such a way as to secure, not merely the correct aggregates of investment in the industries and services from which more will be required, but also a right distribution of this investment between areas, so as to reduce waste of labour to a minimum. Planning for full employment and planning for correct location of industry necessarily go together; and both depend on key decisions in the field of international economic policy as well as on a correct dovetailing of the public and private sectors of home policy.

In this book Mr. Fogarty, making use of the detailed reports prepared by the Nuffield Survey's regional investigators in the various areas, studies, as we have seen, the employment prospects up and down the country as they would be in the absence of new types of government planning and control, and then goes on to consider what lessons can be drawn from the actual experience of such attempts at controlling or influencing location and development as were made between the wars. This comes near, in practice, to considering in what ways a Government can set out, within an economic system based predominantly on private enterprise, to affect the location of industry so as to bring about an improved distribution of openings for employment. It does not go beyond this, or study the possibilities of controlling location and development by quite different means, or under a largely different economic system. The Government's White Paper goes even less far in this direction. It puts the main stress on the extent to which the securing of a better local balance, in and between areas, depends on success in influencing, rather than controlling, private capital investment, and refers more than once to the great difficulties involved. In the section which deals with the transitional period immediately after the war, the White Paper emphasizes the large measure of control that will rest in the hands of the Government through its power to grant or refuse building permits; and it is clear that this power, drastically used, could extend to complete control over all forms of location of industry involving the erection or alteration of buildings. No reference, however, is made to any such power in the sections of the White Paper which deal with longer-term policy; and it appears to be contemplated that the system of building permits will be allowed to lapse fairly soon. When it no longer exists, or when it ceases to be extensively used as an instrument for controlling location, the Government presumably intends to fall back on other methods; but it is not made at all clear what these are to be. There is not in the White Paper any proposal for a National Investment Board, or for any similar body,

which might be used to control the use of capital; and, if no such body is in contemplation, there will be left little beyond the possible prohibition of development in certain areas (or its subjection to licence) and the inducements which are to be held out to industries to settle in a limited number of 'development areas'. These latter seem to be in effect the pre-war 'Special Areas' under another name, with the proviso that the list can be varied from time to time. Thus, it appears to be contemplated that after the transitional period of building permits there will be no *general* method of influencing location, but only a scheduling of certain areas at each end of the scale.

One marked disadvantage of this method of trying to control location simply by marking out certain areas as 'development areas', and perhaps imposing restrictions on development in certain others, is that it effectively blocks any policy of considering whole industries and drawing up rational plans of location for them over the country as a whole. It is no less important to arrive at a coherent arrangement of the employment attached to particular industries than to secure a reasonable balance in particular areas. Indeed, the two lines of approach are, or should be, complementary; and it is a great weakness of the White Paper that it appears entirely to ignore one of the two. It ignores national planning; and as we have seen it also tends to ignore local planning outside large regions threatened with depression on a considerable scale.

This is the more serious because the right balance of industries needs to be secured not only over whole regions, such as South Wales or the North-east Coast, but in each town or district within each region. This need exists, not only in regions which are unbalanced or threatened with a shortage of total openings for employment, but also in towns or areas situated within regions which, regarded as wholes, are tolerably prosperous and well-balanced. There are many smallish towns, for example, which would probably have no chance of being scheduled as 'development areas', but do badly need help in securing additional industries of a suitable sort. Indeed, any policy of dispersal out of the great cities or of re-animating existing country towns or of creating new towns requires, as a condition of success, the attraction of suitable industries to the places which are to be developed, not only where they are short of means of employing their existing populations, but also where it is regarded as desirable for their populations to be increased. There is in the White Paper no hint of any policy of this sort: it seems indeed clear that the assumption behind it is still that of 'Special Areas' which need to have work found for their existing populations, rather than that of a planned distribution of industry and population over the country as a whole.

Of course, in putting forward these criticisms of the White Paper I am not speaking either for Mr. Fogarty or for Nuffield College, but solely for myself. It was not Mr. Fogarty's purpose in this volume to embark on the wider controversial issues of either national economic planning or town and country planning, but rather to survey the facts, including the policies hitherto pursued, and to draw such deductions from them as can be drawn without pronouncing on these larger and more debatable matters of national policy. I have ventured to touch on the wider issues because it is of the first importance that readers of this volume shall be fully aware of the limits within which it has been confined, and shall not mistake for prophecies of what the state of employment in the various areas will actually be hypothetical forecasts of what it would be in the absence of effective measures designed to make it something else.

July 1944

G. D. H. COLE

CHAPTER I

PROSPEROUS AND DEPRESSED AREAS BEFORE THE WAR

GREAT BRITAIN could be roughly divided before the war into a prosperous area in the South and South-east and a generally—though by no means universally—depressed area to the North and West. The dividing line (or rather the transitional zone, since no single line can be drawn) ran from the Severn through the Midlands to a point near the mouth of the Humber. This division does not, of course, imply that there were no depressed districts South of the line and no prosperous districts to the North. Cornwall, a number of scattered districts in East Anglia, and parts of the Midlands had distinctly more than the national average of unemployment, and in the North there were areas such as Manchester, Westmorland, or East Scotland (apart from Dundee and its neighbourhood) which were at least relatively prosperous. But the division is broadly justified. Between 1923 and 1937 the insured population of the Ministry of Labour's three Southern divisions increased by 1,396,000, or 41 per cent, and the insured population of the Midlands by 445,000, or 27 per cent (Tables 1 and 5); the insured population of the rest of Great Britain increased only by 10 per cent, or 576,000. The three Southern divisions, which began in 1923 with 32 per cent of the insured population of Great Britain, obtained nearly 60 per cent of the increase between 1923 and 1937. The change in the distribution of employment among insured workers over the same period was even more in favour of the South and Midlands: in the three Southern divisions employment rose by 47 per cent, and in the Midlands by 32 per cent, as against a rise of only 4 per cent in the North, Scotland, and Wales.

What was happening was analysed in some detail by the Barlow Commission.¹ As a result of shifts in demand, particularly in export markets, employment in a number of what had been the leading British industries before the Great War was declining either absolutely or relatively to the total employment in all industries. There were heavy falls in total employment in cotton, some of the minor textile industries, coal, and shipbuilding, and other falls occurred in the woollen and worsted and some sections of the iron and steel industries. The constructional industries, the trades manufacturing directly for consumers in the home market, and the service trades

¹ Report of the Royal Commission on the Distribution of the Industrial Population, 1940. Cmd. 6153.

gained. Both declining and expanding industries were largely localized in certain areas before the shift began, and each of the main regions of Great Britain shared in the increased employment in the expanding industries or in the loss of employment in the contracting industries approximately in proportion to its share in the employment given by each of the two groups before the shift started. The rate of growth or contraction of particular industries was not, of course, uniform all over the country. The output of coal in South Yorkshire rose 17 per cent between 1913 and 1937, while over the same period output in Durham fell 24 per cent. Steel output in Northampton and Lincolnshire rose from 3 per cent of the national output in 1915 to 13 per cent in 1937, and pig-iron production in the same districts rose from 8 per cent to 21 per cent of the national total. Changes of this kind occurred in most industries and in most regions. But, if large groups of industries are considered together over wide areas, the Barlow Commission's figures (Table 6) show that there was a tendency before the war for employment to increase or diminish in each area at about the rate which might have been expected if each industry had grown or contracted at the same rate all over the country. It was this broadly uniform expansion or contraction of the industries affected by the shift in demand which was chiefly responsible for the relatively rapid growth of employment in the Midlands and South, the leading centres of the expanding industries and service trades, and for the stagnation of employment and growth of persistent unemployment in the North and West.

Whatever the cause, there was no question of the result. The relatively rapid growth of employment in the Midlands and South and the comparative stagnation—in some areas, as in Wales, the actual decline—in the North and West resulted in a demand for labour in the South greater than could be satisfied from the natural increase of the population already established there, and a corresponding difficulty in finding work for the increasing populations of the North and West. To some extent this situation was met by migration. It is estimated that the Ministry of Labour's three Southern divisions gained 650,000 inhabitants by net immigration between 1923 and 1931, and 510,000 more between 1931 and 1936 (Tables 2 and 7). The Midlands on balance lost about 12,000 over the whole period; the loss was concentrated into the first few years, when some of the chief Midland engineering centres were still completing their adjustment to peace-time conditions after the war of 1914 to 1918. Scotland, Wales, and the divisions in the North of England lost 950,000 inhabitants by net emigration between 1923 and 1931, and a further 260,000—allowing for a small gain in Scotland—between 1931 and 1936.

TABLE 1

INCREASE IN THE NUMBER OF INSURED WORKERS AND IN THE
NUMBER OF INSURED WORKERS IN EMPLOYMENT, 1923-37

Division	Increase % since 1923	
	Insured Workers (July 1937)	Insured Employed Workers (June 1937)
London	39	45
South-eastern	54	59
South-western	34	40
Midlands	27	32
North-eastern	18	14
North-western	9	12
Northern	3	2
Scotland	12	12
Wales	2	-14 (decrease)
Great Britain	22	24

The figures relate to workers aged 16-64 and to the areas as defined in June 1937. From the *Ministry of Labour Gazette*.

Migration on this scale prevented any shortage of labour in the Midlands and South (apart from a few special classes and districts), but was not sufficient to prevent the working population of the North and West from growing faster than the amount of work available for them in their own districts. This combined with the fact that the industries of the North and West are in general more sensitive to the trade cycle than those of the South and South-east to cause the variations in unemployment illustrated in Tables 8 and 9 and the accompanying map.¹ The area of lowest unemployment in England and Wales between 1931 and 1936 was concentrated round London, running as far into the Midlands as Warwickshire and Leicestershire, and with an arm along the South Coast as far as Devon. Outside this was a ring of counties from Suffolk round to Gloucestershire, including the East Riding, in which unemployment was near the national average. Beyond this were counties where unemployment was distinctly above the national average—Lancashire, Cheshire, the West Riding, and Cornwall. Beyond this again were the severely depressed areas, Wales, Cumberland, and the North-east Coast; Westmorland was an exception to the general pattern, with unemployment well below the national average. In Scotland there was a kind of S-pattern of areas of relatively low unemployment from Aberdeen round to Wigtown along the East Coast and the Border; the Dundee area and the districts to the North and West of the relatively prosperous belt had a level of unemployment well above the national average.

¹ The statistics in these and other Tables exclude agricultural workers, unless the contrary is specifically stated.

TABLE 2

AVERAGE ANNUAL GAINS OR LOSSES ON ACCOUNT OF MIGRATION
(TOTAL POPULATION) MINISTRY OF LABOUR DIVISIONS (AS
DEFINED DOWN TO 1936)

	1923-31	1931-6
London and Home Counties	+62,205	+71,623
South-east	+ 8,733	+18,334
South-west	+10,582	+11,445
Midlands	- 4,964	+ 5,521
North-west	-19,275	- 6,942
North-east	-30,516	-24,180
Scotland	-37,559	+ 1,299
Wales	-31,350	-22,092
Net inward (+) or outward (-) balance of overseas migration	-42,144	+55,008

From Makower, Marschak, and Robinson, *Studies in Mobility of Labour* in
Oxford Economic Papers, No. 2. Based on the Registrar-General's *Annual Review*.

COMPARISON WITH LONDON AND THE SOUTH-EAST

The level of unemployment in different parts of the country in various years between 1927 and 1938 has been compared in Tables 3 and 9 and the final columns of Table 8 with the level at the same periods in the Ministry of Labour's London and South-eastern Divisions. Though the level of prosperity attained in London and the South-east was not high in an absolute sense—even in the peak years 1929 and 1937 unemployment was around 6 per cent—this is probably the best available standard of comparison. The South-east was moderately prosperous in good years, and, though unemployment in the two South-eastern Divisions rose in 1932 to 13½ per cent, it was never either severe or prolonged enough to produce the acute consciousness of depression which was found in many parts of the North and West. Conditions in the South-east provide a standard with a real meaning, in the sense of a standard which was actually experienced over a large part of Great Britain before the war, and the lowness of the standard at least ensures that there can be no question that any excess of unemployment over the level experienced in London and the South-east represented a genuine measure of depression. 'General' unemployment has been taken in Table 3 as the level of unemployment actually experienced in London and the South-east, and 'excess' unemployment as the excess of unemployment in any region over general unemployment.

The excess unemployment which remained even in the peak years 1929 and 1937 has been given here for convenience of reference the name of 'persistent excess'. The number of workers affected by persistent excess unemployment in all regions together in 1929 was between 550,000 and 600,000, out of a total of approximately a

TABLE 8. GENERAL AND EXCESS UNEMPLOYMENT IN GREAT BRITAIN, 1929-37
Annual Averages

	Insured workers, aged 16-64 ¹			General Un-employment ² No. affected 000's	Excess unemployment ³						
	Total 000's	Unem- ployed	Unem- ployed as % of insured		Total		Persistent		Cyclical		
					No. affected 000's	% of insured	No. affected 000's	% of insured	No. affected 000's	% of insured	
<i>South-east and London</i>	1929	3,108	174	5.6	174	—	—	—	—	—	—
	1932	3,363	461	13.7	461	—	—	—	—	—	—
	1937	3,824	245	6.4	244	—	—	—	—	—	—
<i>South-west</i>	1929	840	68	8.1	47	21	2.5	—	—	—	—
	1932	907	155	17.1	124	31	2.0	13	1.4	—	1.4
	1937	998	78	7.8	64	14	1.4	—	—	—	—
<i>Midlands</i>	1929	1,793	167	9.3	101	66	3.7	—	—	—	—
	1932	1,892	380	20.1	259	121	48.4	73	2.5	—	3.9
	1937	2,079	150	7.2	183	17	0.8	—	—	—	—
<i>North, North-east, North-west</i>	1929	4,106	554	13.5	230	324	7.9	—	—	—	—
	1932	4,279	1,160	27.1	586	574	7.5	252	7.5	—	5.9
	1937	4,384	596	13.8	277	319	7.4	—	—	—	—
<i>Wales</i>	1929	583	113	19.3	33	80	13.7	—	—	—	—
	1932	619	226	36.5	85	141	13.9	55	13.9	—	8.9
	1937	610	136	22.3	39	97	15.9	—	—	—	—
<i>Scotland</i>	1929	1,270	154	12.1	71	83	6.5	—	—	—	—
	1932	1,340	371	27.7	184	187	7.5	86	7.5	—	6.4
	1937	1,398	222	15.9	90	132	9.5	—	—	—	—
<i>Great Britain</i>	1929	11,700	1,229	10.5	656	573	4.9	—	—	—	—
	1932	12,400	2,753	22.2	1,699	1,054	4.7	478	4.7	—	3.8
	1937	13,243	1,427	10.8	847	590	4.4	—	—	—	—

¹ Excluding agricultural workers and workers covered by special schemes.

² General unemployment is taken as equal to the level actually experienced in London and the South-east.

³ Excess unemployment is unemployment in any area in excess of 'general' unemployment.

⁴ The method of calculating these figures is explained in a footnote to page 7.

million and a quarter unemployed; it was almost exactly the same in 1937, when the total number unemployed had risen to nearly a million and a half. In 1937 about $7\frac{1}{2}$ per cent of the insured workers in the North of England¹ were affected by persistent excess unemployment, about $9\frac{1}{2}$ per cent in Scotland, and almost 16 per cent in Wales; unemployment of this kind was very small in the Midlands and South-west.

The distribution by counties of persistent excess unemployment in 1937 is shown in detail in the final column of Table 8. It was spread widely over the whole of the North of England, Wales, and Scotland, and there was a noticeable amount of it in some parts of the Midlands and the South-west. The most striking feature of the Table, and one to which the difficulty of dealing with this type of unemployment has been very largely due, is the concentration of large masses of excess unemployment in certain areas—masses representing a high enough proportion of the local working population to make it difficult or impossible to reabsorb them into work by the expansion of local industries, and at the same time too big for it to be easy to create enough new work by the introduction of entirely new trades. The heaviest concentrations in 1937 were in the districts which contained the four Special Areas. In Carmarthen, Glamorgan, and Monmouth approximately 80,000 workers were affected by persistent excess unemployment, some $16\frac{1}{2}$ per cent of the total insured population. Between 80,000 and 85,000 (11 per cent of the insured population) were affected by persistent excess unemployment on the North-east Coast and in the North Riding generally, and a further 9,000 (15 per cent of the insured population) in Cumberland. In Ayr, Lanark, Renfrew, and Dumbarton, about 80,000 insured workers, $10\frac{1}{2}$ per cent of the total, were unemployed for the same reasons. These four districts together, with 15 per cent of the insured population of Great Britain, accounted for 45 per cent of all persistent excess unemployment. There was a slightly less heavy concentration in Lancashire, Cheshire, and the counties along the North Wales coast; in 1937 between 165,000 and 170,000 workers were affected, or $7\frac{1}{2}$ per cent of all insured.

In the rest of the country there were a number of counties where there were large numbers of workers affected by persistent excess unemployment, and others where the percentage of excess unemployment was high; the West Riding and Staffordshire are examples of the first group, and many of the counties of rural Scotland and Wales of the second. The West Riding alone had 50,000 workers affected by this type of unemployment, and in Ross and Cromarty, the most seriously depressed of the Scottish counties, persistent excess

¹ A number of divisions have to be grouped together in order to preserve comparability between the figures for 1937 and earlier years.

unemployment affected over 40 per cent of the insured workers. But neither of these groups of counties presented a problem as serious as existed in the areas of great concentration; either the number of unemployed workers in them was small, though large in relation to the local population, or it was large, but not so large in relation to the total population as to make a solution through the natural development of existing industries entirely out of the question. It might be desirable to accelerate developments in the West Riding or the Black Country, and there were patches of depression in these and other counties which were fully as acute as any in the counties where depression was more general and widespread; but the problems to be faced were on the whole far less difficult.

During the slump of the 'thirties excess unemployment rose sharply, as a result of the localization outside London and the South-east of most of the industries which were severely affected by the trade cycle—broadly speaking, the industries making durable goods, the leading export industries, and coal, with the holiday group.¹ The holiday group stands rather apart from the rest, being strongly represented in the South-east: the very strong long-term upward trend of unemployment in this group during the 'twenties and 'thirties meant that cyclical fluctuation implied merely a check to expansion with little or no absolute fall in employment. The greater severity of the depression outside the South-east can be roughly measured (Table 3) by the difference in each region between excess unemployment in 1929 or 1937 and the corresponding excess in 1932; for convenience of reference the increase in excess unemployment during this period has been called the 'cyclical excess'.

Cyclical excess unemployment affected 480,000 workers in 1932.² It was distributed over the country in very much the same way as persistent excess unemployment; 3 per cent of the combined insured populations of the Midlands and South-west were affected, 6 per cent in the North of England, 6½ per cent in Scotland, and about 9 per

¹ The fifteen industry groups (from the Ministry of Labour's classification) in which employment tended to rise or fall particularly sharply, discounting long-term trends, in the course of improvements or recessions in general business activity between 1924 and 1938 were, in order:

Holiday trades, wool, shipbuilding and marine engineering, constructional engineering, iron and steel, general engineering, railway carriage and wagon building, coal mining, the motor, cycle, and aircraft group, non-ferrous metals, building, pottery and earthenware, cotton, and sawmilling and machined woodwork.

² It is assumed that the changes took place between 1929 and 1937 in the volume of excess unemployment occurred by a smooth progression. The figure for cyclical excess unemployment in 1932 is obtained by subtracting from total excess unemployment in 1932 the total of excess unemployment in 1929, plus (where excess unemployment increased between 1929 and 1937) or minus (where it diminished) ⅔ of the difference between the figures for excess unemployment in 1929 and 1937.

cent in Wales. The Midlands, which had very little persistent excess unemployment in 1937, had a good deal of cyclical excess unemployment in 1932; Wales had a smaller share in cyclical than in persistent unemployment. Considering the distribution in more detail, the counties where unemployment increased most sharply during the slump of the 'thirties fell into three or four main groups (Tables 8 and 9). One group was in the Midlands, and included Derbyshire, Staffordshire, Warwick, and Worcester, with Northamptonshire's position uncertain. A second group consisted of Lancashire, Cheshire, and Flint; this group formed part of a continuous series covering most of Northern England, and including also the West and North Ridings, Durham, and Northumberland. There was another group in Central and Western Scotland, including Lanark, Renfrew, and Dumbarton, Clackmannan, Fife, and Angus; Ayr and Stirling might perhaps be added. A few other counties might be included with these main groups, especially Suffolk, Essex, Cornwall, and Monmouth. The areas where unemployment increased during the depression less rapidly than in the country as a whole included London and most of the counties in the South, along with Cambridge and Norfolk, the East Riding, rural Wales, the Lothians, and rural Scotland.

The coincidence between the area affected by cyclical and persistent excess unemployment is an indication of the absence of any fundamental division between the two. An arbitrary distinction is useful in illustrating the effect on different regions of successive phases of the conditions experienced in the 'twenties and 'thirties; but it should not be carried too far. From the point of view of results—of the effect of unemployment on social conditions—it has little importance; the conditions described in the Pilgrim's Trust's report on *Men Without Work* or the Carnegie Trust's report on *Disinherited Youth* were the product as much of five or six years of cyclical unemployment as of the persistent decay of leading industries. The Ministry of Labour's statistics of prolonged unemployment (Table 10) will serve to illustrate this point. The number of adult men unemployed for a year or more was 200,000 greater in June 1933 than in the months following the cyclical peak of 1937, and the additional prolonged unemployment was spread over all areas, prosperous and depressed alike; though it is noticeable that London and the South-east had less than their share. From the point of view of causes and remedies the distinction between cyclical and persistent unemployment has rather more importance; but even here it is probably best to regard both forms of excess unemployment as aspects of a single problem, due to a single range of causes, and requiring to be dealt with by measures varied in kind, but forming part of a single comprehensive policy.

CONCEALED UNEMPLOYMENT

The effects of the excess unemployment in many areas of the North and West recorded in the Ministry of Labour's general statistics were aggravated by the existence in many of the same areas of unemployment which was either unrecorded or only partially recorded. This took two main forms. Short-time working and other forms of under-employment, the more obvious of the two, represented in some districts a very substantial addition to total unemployment. In the cotton industry, to take an outstanding example, the proportion of workers on short-time rose between June 1937 and June 1938 from 3 per cent to $29\frac{1}{2}$ per cent, and the average number of hours lost per week by each worker on short time from 12 to 14. Short-time working recorded as such¹ in June 1938 was equivalent to total unemployment for about $5\frac{1}{2}$ per cent of all insured cotton workers; and this figure includes no allowance for other forms of under-employment, including particularly the effect of reduction in the number of looms worked by an operative. The percentage of insured cotton workers recorded as unemployed by the Ministry of Labour rose between June 1937 and June 1938 by 25.1 per cent, from 9.6 per cent to 34.7 per cent, so that the increase in short-time working added to total unemployment the equivalent of about a fifth of the increase in visible unemployment. In coal mining, to take another industry mainly situated in depressed districts, the average weekly number of days on which the pits wound coal in October 1932 was about 9 per cent below the average for 1929, and $11\frac{1}{2}$ per cent below the average for 1937. In the case both of coal and of cotton the comparison has been drawn so as largely to eliminate the influence of seasonal movements, which caused a good deal of short-time working. Seasonal short-time is a feature of a number of industries, including several (hosiery and clothing are examples) which are found chiefly in prosperous districts.

The other main form of concealed unemployment was due to the failure of women in certain districts, and in some cases of boys and girls, to enter any form of paid or insured employment. Table 11 shows the wide variations between different parts of the country in the proportion of women gainfully occupied, ranging in 1931 from 18.5 per cent of all women over fifteen years of age in Monmouth to over 45 per cent in London. To some extent these variations are due to differences in social habits which are independent of unemployment or under-employment. In Hertfordshire before the war, in spite of the relatively low proportion of women gainfully occupied (33.8 per cent of all aged fifteen or over, against 35.1 per cent for England and Wales) there was a definite shortage of women workers;

¹ Owing to the way in which the monthly count is taken a number of workers on short-time are recorded as wholly unemployed.

the women who might have been employed preferred either not to enter industry or to leave it on marriage. At the other end of the scale, the high proportion of all Lancashire or London women employed is due, at least partly, to a social outlook which, while it has been influenced by economic conditions, would probably persist at least for a generation or two even if the economic conditions which helped to form it were to disappear.

But differences of social outlook will not explain the low proportion of women employed in a number of important areas. In Great Britain as a whole in 1939 there were 39 insured women and girls aged 14 to 64 for every hundred men and boys insured. In South Wales there were sixteen to each hundred men and boys. On the North-east Coast there were twenty insured women and girls aged 16 to 64 for every hundred men, against 37 for Great Britain as a whole. There were many smaller areas in which the proportion of women workers was extraordinarily low; Rotherham, for instance, had ten insured women¹ to each hundred men in 1939, and Corby had nine. In some cases the lack of work for women was more apparent than real. The Ministry of Labour's statistics take no account of domestic servants, farmers' wives and daughters working on the farm, or of many part-time workers, and many women travelled regularly before the war from the smaller districts where there was little women's work to neighbouring districts where there was a demand. The statistics for Northamptonshire are a particularly good illustration of the last point. The proportion of women and girls aged 14-64 to each hundred insured males in Northamptonshire varied in 1939 from eight at Towcester to 64 at Desborough. When the areas are grouped into larger units, centred respectively on Northampton, Kettering, and Wellingborough, the differences largely disappear. There were 46 insured women to each hundred insured men in Northamptonshire as a whole in 1939, and the figures for the three groups of areas are respectively 43, 44, and 53.

This smoothing of the demand for labour over large areas did not occur everywhere. It is particularly in areas such as South Wales or the North-east Coast, which were generally depressed, that the demand for women's work was limited over a whole region; there is no question that very many women in these areas who would have preferred industrial work remained in their own homes or went unwillingly into domestic service, inside or outside their own districts. Experience during the war has provided any proof which was needed. In many cases, of course, women even in these areas have taken up munition work during the war only as a duty; but it is equally clear that very large numbers have welcomed war work as an opportunity of which they would have been glad even in peace.

¹ Aged 14-64.

It is again largely in the depressed districts that boys were held back by local industrial conditions from entering industry at the normal age. For obvious reasons concealed unemployment of this kind is not necessarily a social disadvantage, though it may undoubtedly constitute a serious immediate hardship. The failure of boys to enter employment at the normal age is not entirely confined to the depressed areas; some striking instances can also be quoted from new suburbs of towns such as London¹ and Liverpool² of areas where too little local work was available before the war for boys entering industry, and where it was too inconvenient or expensive for them to travel to central districts where work would have been available.

EMPLOYMENT AT LOW EARNINGS

The depression of many districts in the North and West was further aggravated by the relatively low level of earnings in many of the industries on which these areas chiefly depended. The contrast can be judged from Table 4: the position of Dundee, with its overwhelming dependence on jute, or of the Lancashire cotton towns, or of Stoke-on-Trent, has to be compared with the position at Leicester, dependent on hosiery, boots and shoes, and general engineering, at Coventry, dependent on motors, cycles, and aircraft, and to a much

TABLE 4
AVERAGE EARNINGS OF ADULT MALE WAGE-EARNERS IN
THE LAST PAY-WEEK OF OCTOBER 1938

Motor Vehicles, Cycles, and Aircraft	88/3
General Engineering, etc.	73/7
Constructional Engineering	72/-
Shipbuilding and Ship-repairing	70/1
Marine Engineering	75/1
Hosiery	78/11
Hats and Caps	65/6
Boots, Shoes, Slippers, Clogs:	
Firms employing 10 or more workers	64/7
Firms employing under 10 workers	59/8
Silk and Rayon	62/1
Pottery, Earthenware, etc.	60/11
Wool	57/6
Textile-bleaching, Printing, Dyeing, etc.	57/3
Jute	51/1
Cotton	50/9

Estimated from the *Ministry of Labour Gazette*, November-December 1940.

The estimates exclude clerical and administrative workers and outworkers.

¹ Evidence of the Ministry of Labour to the Barlow Commission, 11th day, pp. 321-2.

² University of Liverpool, Social Science Department: *Population Problems of New Estates*.

smaller extent on general engineering and rayon, or at Luton, where the leading industries are hats and caps, motors, and general engineering. In some cases the contrast can be partly accounted for by differences in the amount of short-time and overtime worked; but this factor is not very important. Short-time in pottery and cotton, industries for which the figures are easily available, was sufficient to reduce the average earnings of workers employed in October 1938 by no more than 3 per cent.

THE AIM OF THE NUFFIELD SURVEY

It was with this interconnected group of problems—excess unemployment in one or another form, or employment at unduly low rates—that the Nuffield Survey was primarily concerned, though the field actually covered was considerably wider. The Survey's formal terms of reference required it to investigate the extent, effects, and probable permanence of the redistribution of industry and population brought about by the war. In order to answer these questions it was necessary to make some assumption about the general framework of industrial conditions in this country after the war. In the absence of guidance from the responsible authorities it was difficult to decide what these conditions were likely to be, and in the circumstances it seemed best to proceed on the assumption that they would be broadly similar to the conditions which prevailed before the war, except where a change seemed likely to occur irrespective of official policy or had already occurred and seemed likely to be permanent, or where a definite decision on policy had been taken by the Government. The possibility of particular policies being adopted could not be left out of account; but, in forecasting trends, an effort was made to reduce speculation on policy to a minimum. The aim was more to discover the situation on which policy would have to operate than to illustrate the conditions which policy might create.

An approach on these lines inevitably results in a somewhat pessimistic impression of future conditions. There is no shortage of openings for new development in industry or the service trades, and it is reasonable to hope that nothing resembling the conditions of the 'thirties will in fact recur; the problem should be much more to find districts in which there is labour and capacity to spare for urgent new developments than to find work for depressed areas. More optimistic assumptions than those actually adopted would, however, have been a matter of speculation, and it has seemed preferable to proceed on the solid ground of past experience even at the expense of giving what it may be hoped¹ is an unduly pessimistic colour to the Survey's regional and national reports.

¹ Particularly in the light of the Government's White Paper on *Employment Policy* (Cmd. 6527), published at the moment of completing the present report.

All the main industrial areas, prosperous and depressed alike, were covered so far as possible in the course of the Survey,¹ and consideration was given to (for example) the economic problems arising in connexion with the movement of industry and population out of Greater London, as well as to the problems of the districts where there is a danger of mass unemployment. In view, however, of the Survey's assumptions, and since the most urgent pre-war problems in connexion with the location of industry arose out of the existence of depressed areas, the main question before the Survey was whether and where localized depression of the kinds familiar before the war was likely to recur—taking localized depression in the sense of persistent or cyclical excess unemployment, together with the conditions by which excess unemployment in the past has been aggravated. Was it likely that the war would prove to have reversed permanently the trends which caused the depressed areas of the years after 1918? What would probably be the permanent effect of the evening up during the war of the level of prosperity in formerly prosperous and depressed districts, or of the new industrial development, the training in new skills, and the introduction of new training schemes and ancillary services for industry in areas such as South Wales or Cumberland? What was likely to be the permanent result of the increased employment of women during the war? How far was the movement of population since 1939 likely to have permanent results? And could it be said that any of the formerly depressed areas were definitely out of danger of further depression; or, on the other hand, that there were likely to be new depressed areas? The inadequacy of the Survey's resources is stressed in the Preface, and it is not claimed that fully satisfactory answers have been obtained to these or similar questions; the most that can be said is that it has been possible to obtain a general impression of what the true answers to a number of the questions asked are likely to prove to be.

The Survey's inquiries were concentrated mainly on long- or medium-term problems—up to, say, fifteen or twenty years ahead—though a considerable amount of information was collected on the prospects for the period immediately after the war. Little has been said on this period in the chapters on regional prospects, except where short-term problems have also an important long-term significance.

It will be appreciated that the difficulties of publication in war-time have made it impossible to bring the material used in this volume as nearly up to date as could reasonably have been expected in time of peace. The comments of Chief Local Investigators and others on draft chapters were collected during the first half of 1944,

¹ Cf. Map I, showing the areas covered.

TABLE 5—ESTIMATED NUMBERS
INSURED AND

Excluding agricultural workers and

(a) Estimated Number of Insured Persons, aged 16-64

Administrative Division ¹	July 1923	July 1929	July 1932	July 1936	July 1937
T h o u s a n d s					
London . . .	2,054	2,346	2,523	2,750	2,855
South-eastern . . .	628	762	840	938	969
South-western . . .	744	840	907	960	998
Midlands . . .	1,634	1,793	1,892	2,008	2,079
North-eastern . . .	1,207	1,307	1,366	1,396	1,427
North-western . . .	1,950	2,056	2,126	2,080	2,122
Northern . . .	761	743	787	778	785
Scotland . . .	1,249	1,270	1,340	1,376	1,398
Wales . . .	599	583	619	611	610
Great Britain . . .	10,826	11,700	12,400	12,897	13,243
I n d e x N u m b e r s					
London . . .	100	114	123	134	139
South-eastern . . .	100	121	134	149	154
South-western . . .	100	113	122	129	134
Midlands . . .	100	110	116	123	127
North-eastern . . .	100	108	113	116	118
North-western . . .	100	105	109	107	109
Northern . . .	100	98	103	102	103
Scotland . . .	100	102	107	110	112
Wales . . .	100	97	103	102	102
Great Britain . . .	100	108	115	119	122

¹ The figures relate to the areas as defined at June 1937. Important changes

and the book was ready for the printer by the end of June. Since that date there have been considerable developments in the field covered. Several new sources of information have become available, including particularly the White Papers on *Statistics Relating to the War Effort*¹ and on *Accounts Relating to the Export Trade of the United Kingdom*,² the *Statistical Digest from 1938*³ issued by the Ministry of Fuel and Power, and certain population figures issued by the Board of Trade. A vigorous start has been made, notably in connexion with industrial demobilization and the disposal of war

¹ Cmd. 6564: November 1944.² Two volumes, covering 1939-41 and 1938, 1942, and 1943 respectively: Nov.-Dec. 1944.³ July 1944: followed by a supplement issued in Nov. 1944.

OF PERSONS, AGED 16-64

EMPLOYED, 1928-37

persons insured under special schemes

(b) Estimated Number of Insured Persons, aged 16-64, in employment

Administrative Division ¹	June 1928	June 1929	June 1932	June 1936	June 1937
T h o u s a n d s					
London . . .	1,856	2,235	2,192	2,574	2,695
South-eastern . . .	577	732	734	885	920
South-western . . .	669	783	765	886	934
Midlands . . .	1,468	1,629	1,486	1,828	1,944
North-eastern . . .	1,101	1,157	1,013	1,170	1,256
North-western . . .	1,653	1,797	1,579	1,739	1,851
Northern . . .	644	635	498	607	654
Scotland . . .	1,078	1,130	981	1,141	1,203
Wales . . .	564	477	387	425	484
Great Britain . . .	9,610	10,575	9,635	11,255	11,941
I n d e x N u m b e r s					
London . . .	100	120	118	139	145
South-eastern . . .	100	127	127	153	159
South-western . . .	100	117	114	132	140
Midlands . . .	100	111	101	124	132
North-eastern . . .	100	105	92	106	114
North-western . . .	100	109	96	105	112
Northern . . .	100	99	77	94	102
Scotland . . .	100	105	91	106	112
Wales . . .	100	85	69	75	86
Great Britain . . .	100	110	100	117	124

in the boundaries of some of the Divisions were made on 1st August 1936.

factories, with the measures to influence the location of industry foreshadowed in the White Paper on *Employment Policy*.¹ The Greater London Plan to which reference is made in Chapter XV has been published,² and there have been a variety of other reports and statements of policy. A Distribution of Industry Bill was introduced in February 1945. The new information has in certain cases been incorporated in this volume, either in the text or in footnotes; but for the most part the text remains as it was originally sent to the press. The principal aim was to describe the problems to be solved; recent developments, important as they are, have made little difference to the picture of these which has been drawn in the following chapters.

¹ Cmd. 6527: May 1944.

² Dec. 1944.

TABLE 6

WORKERS INSURED AGAINST UNEMPLOYMENT. REGIONAL CHANGES IN NUMBERS INSURED, 1923-37¹

(a)	Great Britain	London and Home Counties	Midland Counties	West Riding, Notts. and Derby	Mid-Scotland	Lancashire	Northumberland and Durham	Glasgow and Monmouth
I. <i>Per cent insured in 1923 in:</i>								
7 'local' industries	24	35	16	14	25	19	16	13
16 rapidly expanding 'basic' industries	14	21	26	9	10	9	6	4
5 rapidly declining 'basic' industries ²	23	1	12	43	24	36	49	59
18 other industries ³	39	43	46	33	40	36	28	24
All industries	100	100	100	100	100	100	100	100
II. <i>Per cent increase (+) or decrease (-) 1923-1937:</i>								
7 'local' industries	+57	+54	+67	+69	+43	+47	+63	+59
16 rapidly expanding 'basic' industries	+66	+69	+51	+75	+46	+86	+63	+49
5 rapidly declining 'basic' industries	-25	-4	-28	-15	-31	-28	-29	-34
18 other industries ³	+14	+21	+17	+15	+5	+2	+18 ⁵	+20 ⁵
All industries	+22	+43	+28	+15	+10	+8	+5	-4
III. <i>'Hypothetical' increase, 4 1923-37, per cent</i>	+22	+40	+29	+9	+18	+11	+4	+1
IV. <i>Per cent insured in 1937 in:</i>								
7 'local' industries	30	38	20	21	33	26	25	22
16 rapidly expanding 'basic' industries	19	25	30	14	13	16	9	6
5 rapidly declining 'basic' industries	14	1	7	32	15	24	33	41
18 other industries ³	37	36	42	33	39	35	32	31
All industries	100	100	100	100	100	100	100	100

(For footnotes see next page.)

(b) Analysis of twenty-three industries in which, according to the evidence of the Ministry of Labour, the rate of expansion between 1923 and 1937 in Great Britain was greater than the average for all industries.¹

	London and Home Counties	Lancashire	West Riding, Notts. and Derby	Staffs, Warwick, Worcester and Leicester Northants	Northumberland and Durham	Mid-Scotland	Glamorgan and Monmouth
Total insured population in the 23 industries in 1923	1,342,270	456,080	329,750	497,910	139,300	255,220	83,460
Number in the 23 industries as percentage of total insured population in area in 1923	55.5	20.9	23.5	41.1	22.5	32.2	18.3
Total insured population in the 23 industries as percentage of total insured in the same industries in Great Britain: 1923	33.3	11.3	8.2	12.3	3.5	6.8	2.1
1937	32.9	11.3	8.6	12.0	3.7	5.7	2.3
Increase in the 23 industries between 1923 and 1937 as percentage of total increase in Great Britain in those industries	32.2	11.2	9.3	11.4	4.1	4.8	2.6

Note.—The twenty-three industries include the seven local industries and sixteen rapidly expanding 'basic' industries referred to in the previous table.

¹ From Report of the Barlow Commission, Cmd. 6153.

² Coal, cotton, wool, iron and steel manufacturing, and shipbuilding and repairing.

³ This group includes (a) all those separately distinguished basic industries, other than the '5 rapidly declining basic industries', that declined, or expanded at less than the national rate (+22.3 per cent), in Great Britain; (b) public works contracting; (c) a large group of industries which were included, in the Ministry of Labour evidence, under the heading 'all other industries and services', and which includes both 'basic' industries (some rapidly expanding) and also some industries, such as 'local government service', which should probably be called 'local'.

⁴ i.e. the rate at which the number of insured persons in an area would have increased if each industry had expanded (or contracted) at the area at the same rate as in Great Britain.

⁵ The high rates of increase in the '18 other industries' in Northumberland and Durham and in Glamorgan and Monmouth may be accounted for by high rates of increase in those areas in 'public works contracting', (+377 per cent, and +333 per cent as compared with +142 per cent in Great Britain). If this industry be excluded, the expansion in the remaining seventeen is seen to have been considerably lower in the two areas than in Great Britain.

TABLE 7
AVERAGE ANNUAL GAINS OR LOSSES BY MIGRATION
(TOTAL POPULATION), GREAT BRITAIN: COUNTIES
1927-31 AND 1931-6

Gains or losses expressed as a percentage of the total population. Overseas migration is excluded.

<i>London and the SE.</i>	1927-31	1931-6
London and the Home Counties	+ 1.04	+ 0.66
Bedford	+ 0.51	+ 2.04
Bucks	+ 1.68	+ 1.23
Cambridge	+ 0.94	+ 0.50
Norfolk	- 0.39	- 0.18
Suffolk	- 0.66	- 0.13
Sussex	+ 0.84	+ 1.41
<i>SW.</i>		
Berks	+ 0.50	+ 0.46
Cornwall	- 0.24	- 0.08
Devon	+ 0.53	+ 0.21
Dorset	+ 0.83	+ 0.69
Gloucester	+ 0.21	+ 0.07
Hants (including the Isle of Wight)	+ 0.64	+ 0.47
Oxon	+ 1.82	+ 0.90
Somerset	+ 0.06	+ 0.08
Wilts	- 0.82	- 0.29
<i>M.</i>		
Leicester	+ 0.14	+ 0.30
Northants	+ 0.06	+ 0.23
Notts	+ 0.90	+ 0.21
Shropshire	- 0.41	- 0.49
Stafford	- 0.84	- 0.14
Warwick	+ 0.70	+ 0.31
Worcester	+ 0.47	+ 0.59
Derby	- 0.62	- 0.05
Hereford	- 0.91	- 0.41
<i>NW.</i>		
Cheshire	- 0.03	+ 0.56
Cumberland	- 1.36	- 0.63
Lancs	- 0.62	- 0.25
Westmorland	+ 0.92	- 0.20
<i>NE.</i>		
Durham	- 1.81	- 1.04
Lincs	- 0.15	- 0.03
Northumberland	- 1.10	- 0.23
Yorks (East Riding)	+ 0.24	+ 0.16
Yorks (North Riding)	+ 0.25	- 0.23
Yorks (West Riding)	- 0.20	- 0.25
<i>W.</i>		
Carmarthen	- 0.80	- 0.50
Denbigh	- 0.74	- 0.14
Glamorgan	- 2.05	- 1.11
Monmouth	- 2.44	- 1.34
Pembroke	- 1.22	- 0.79
Rest of Wales	- 0.57	+ 0.05
Scotland	- 0.62	+ 0.03

From Makower, Marschak and Robinson, *Studies in Mobility of Labour*, in *Oxford Economic Papers*, No. 2.

	177	208	240	27.4	31.8	31.9	33.4	32.1	28.2	23.5	13,500	2,700
mbroke	—	—	—	—	—	—	—	—	—	—	—	—
dnor	—	—	—	18.2	18.7	21.3	19.2	19.1	10.3	12.2	1,620	—
of Wales	11.4	14.4	22.1	—	—	—	—	—	—	—	—	—
east Scotland	—	—	—	—	—	—	—	—	—	—	—	—
rick	—	—	—	20.4	21.8	20.2	19.8	19.3	14.0	16.9	2,100	200
st Lothian	—	—	—	12.5	13.5	14.8	14.0	14.0	10.0	9.8	3,840	100
lothian	8.9	10.4	13.1	17.1	16.9	15.9	16.0	15.1	11.9	12.6	166,560	9,000
ables	—	—	—	21.7	25.2	20.6	15.2	11.5	9.1	14.4	3,310	100

TABLE 10
PROLONGED UNEMPLOYMENT AMONG INSURED MEN, AGED 18-64 GREAT BRITAIN

Division	No. of workers unemployed for 12 months or more at:			% of all insured workers in G.B. who were unemployed for 12 months or more recorded in each division at:				% of unemployed insured workers in each division unemployed for 12 months or more Feb. 1938	% of all insured workers in G.B. recorded in each division June 1937
	June 1933	Dec. 1936	Feb. 1938	June 1933	Dec. 1936	Feb. 1938	Feb. 1938		
London and the SE.									
London	18,073	13,252	14,743	3.9	4.5	5.7	6.8	21.6	28.9
SE.			{ 9,769 4,974 }			{ 3.8 1.9 }	6.6	7.3	7.5
South-west	13,129	7,521	5,873	2.9	2.5	2.3	8.6	7.5	15.7
Midlands	56,068	27,270	21,129	12.2	9.2	8.3	15.9	15.7	15.7
North of England									
NE.			{ 24,023 54,389 }			{ 9.4 21.2 }	18.2	10.8	32.7
NW.	224,724	139,073	120,332	49.1	47.1	47.0	23.1	16.0	5.9
N.			{ 41,920 53,802 }			{ 16.4 21.0 }	35.5	10.5	10.5
Scotland	83,735	51,169	53,802	18.3	17.3	21.0	29.7	4.6	4.6
Wales	62,399	57,015	40,021	13.6	19.3	15.7	30.7	100.0	100.0
Great Britain	458,128	295,300	255,900	100.0	100.0	100.0	20.5		

From the *Ministry of Labour Gazette*

TABLE 11
ENGLAND AND WALES: REGISTRATION COUNTIES, 1931

PERCENTAGE OCCUPIED (INCLUDING RETIRED) OF ALL FEMALES AGED 15 AND OVER

	Total No. Domestic Servants as % of Total Occupied Female Population	
	1931	1931
ENGLAND AND WALES	35.1	23.8
<i>London</i>		
London Admin. Co.	45.5	22.1
Middlesex	36.7	23.8
<i>South-east England</i>		
Kent	30.3	38.6
Surrey	35.7	39.6
Sussex	35.2	45.5
<i>Eastern England</i>		
Bedfordshire	34.6	21.5
Cambridgeshire	28.1	37.2
Essex	31.8	20.9
Hertfordshire	33.3	34.5
Huntingdonshire	24.5	36.8
Norfolk	29.2	32.9
Suffolk	28.1	39.5
<i>Southern England</i>		
Berkshire	32.9	39.9
Buckinghamshire	30.0	40.3
Dorsetshire	28.9	44.6
Hampshire (including the I.o.W.)	29.5	40.0
Oxfordshire	32.4	43.2
<i>South-western England</i>		
Cornwall	24.0	41.7
Devonshire	23.9	39.5
Gloucestershire	33.6	27.9
Somersetshire	32.4	36.6
Wiltshire	26.6	39.1
<i>East Midlands</i>		
Derbyshire	29.2	20.7
Leicestershire	44.3	11.7
Lincolnshire	24.6	37.4
Northamptonshire	34.2	20.1
Nottinghamshire	35.4	16.5
Rutland	27.4	58.1

						Total No. Domestic Servants as % of Total Occupied Female Population	
						1931	1931
<i>West Midlands</i>							
Herefordshire	.	.	.	.	.	29.3	47.4
Shropshire	.	.	.	.	.	27.7	45.2
Staffordshire	.	.	.	.	.	37.4	13.7
Warwickshire	.	.	.	.	.	39.8	14.4
Worcestershire	.	.	.	.	.	36.5	20.9
<i>North-western England</i>							
Cheshire	.	.	.	.	.	36.9	24.1
Cumberland	.	.	.	.	.	28.2	30.5
Lancashire	.	.	.	.	.	44.4	11.1
Westmorland	.	.	.	.	.	33.7	40.9
<i>North-eastern England</i>							
Yorkshire, East Riding ¹	.	.	.	.	.	30.2	31.2
Yorkshire, West Riding	.	.	.	.	.	36.0	15.9
<i>Northern England</i>							
Yorkshire, North Riding	.	.	.	.	.	26.2	39.8
Durham	.	.	.	.	.	21.2	29.6
Northumberland	.	.	.	.	.	27.7	30.8
<i>Wales</i>							
Cardmarthen	.	.	.	.	.	21.7	46.7
Glamorgan	.	.	.	.	.	20.3	45.3
Monmouth	.	.	.	.	.	18.5	40.9
Anglesey	.	.	.	.	.	24.0	38.3
Brecknock	.	.	.	.	.	22.2	30.8
Cardigan	.	.	.	.	.	27.3	41.8
Caernarvon	.	.	.	.	.	26.3	32.9
Denbigh	.	.	.	.	.	25.5	31.1
Flint	.	.	.	.	.	26.8	45.1
Merioneth	.	.	.	.	.	25.2	35.6
Montgomery	.	.	.	.	.	26.7	43.0
Pembroke	.	.	.	.	.	24.8	40.6
Radnor	.	.	.	.	.	27.4	49.4
Aggregate, North Wales	.	.	.	.	.	25.9	40.5
Aggregate, South Wales	.	.	.	.	.	21.2	32.5

¹ Including York.

APPENDIX I

AREAS SCHEDULED AS DEPRESSED BY THE MINISTRY OF LABOUR

From the evidence of the Ministry of Labour to the Barlow Commission. References are normally to single exchange areas; in certain cases (e.g. Liverpool or Glasgow) the reference is to the whole of a town or district.

Areas scheduled for preference in the allocation of Government contracts are unmarked.

Areas not scheduled for preference in the allocation of contracts, but on the list of areas from which workers were to be helped to migrate, are marked *.

Areas scheduled only for assistance for juvenile migrants, and not under the scheme for transferring adults, nor for preference in allocating contracts, are marked †.

DEFINITION OF AREAS SCHEDULED FOR PREFERENCE IN THE ALLOCATION OF GOVERNMENT CONTRACTS

'The list of areas to which the preference applies was reconstituted at the beginning of 1936, when the present basis was adopted, under which the preference is accorded to the Special Areas, all Employment Exchange areas in which the rate of unemployment among men aged 18 years and over averaged at least 25 per cent over the preceding twelve months, and Employment Exchange areas in cotton districts in which the rate of unemployment among women aged 18 years and over averaged at least 15 per cent over the preceding twelve months.' (Ministry of Labour's Evidence to the Barlow Commission, par. 106.)

ENGLAND

SOUTH, SOUTH-WEST, AND EAST

Greater London, Kent, Surrey, Sussex, Herts, Bedford, Cambridge, Huntingdon, Buckingham, Berkshire, Oxford, Hampshire, Wiltshire, Devon—none.

<i>Gloucester</i>	<i>Dorset</i>	Redruth	<i>Suffolk</i>
Cinderford	Portland	St. Columb	Walsham-le-
Coleford		St. Just	Willows
Newnham	<i>Cornwall</i>	Torpoint	
Lydney*	Bodmin	Camborne*	<i>Norfolk</i>
	Fowey		Acle
<i>Somerset</i>	Hayle	<i>Essex</i>	Gt. Yarmouth
Clutton	Perranporth	Pitsea	Wells

MIDLANDS

<i>Northants</i>	<i>Bolsover†</i>	<i>Rutland</i>	<i>Newcastle</i>
—	<i>Shirebrook†</i>	—	<i>Chesterton*</i>
	<i>Staveley†</i>		
<i>Leicester</i>			
<i>Ratby</i>	<i>Notts</i>	<i>Warwick</i>	<i>Shropshire</i>
<i>Shepshed</i>	<i>Arnold</i>	—	<i>Bishops Castle</i>
	<i>Hucknall</i>		<i>Ironbridge</i>
<i>Derby</i>	<i>Eastwood*</i>	<i>Worcester</i>	<i>Ludlow</i>
<i>Hadfield</i>	<i>Mansfield†</i>	—	<i>Wellington</i>
<i>Dronfield</i>	<i>Worksop†</i>		<i>Cleobury</i>
<i>Glossop</i>		<i>Staffs</i>	<i>Mortimer*</i>
<i>Chesterfield*</i>			
<i>Clay Cross*</i>	<i>Lincoln</i>	<i>Audley</i>	<i>Hereford</i>
<i>Eckington*</i>	<i>Gainsborough</i>	<i>Biddulph</i>	<i>Ledbury</i>
<i>Heanor*</i>	<i>Grimsby†</i>	<i>Kidsgrove</i>	<i>Ross</i>

NORTH-WEST

<i>Cheshire</i>	<i>Chorley</i>	<i>Wigan</i>	<i>Furness</i>
<i>Birkenhead</i>	<i>Clitheroe</i>	<i>Colne and Bar-</i>	<i>Coniston</i>
<i>Congleton</i>	<i>Darwen</i>	<i>noldswick¹</i>	<i>Dalton</i>
<i>Stalybridge</i>	<i>Farnworth</i>	<i>Ashton-in-</i>	<i>Ulverston</i>
<i>Wallasey</i>	<i>Golborne</i>	<i>Makerfield*</i>	<i>Barrow†</i>
<i>Hyde*</i>	<i>Gt. Harwood</i>	<i>Aspull*</i>	
<i>Ellesmere Port†</i>	<i>Haslingden</i>	<i>Bamber Bridge*</i>	<i>Cumberland</i>
<i>Ince†</i>	<i>Heywood</i>	<i>Clayton-le-Moors*</i>	<i>Alston</i>
<i>Middlewich†</i>	<i>Hindley</i>	<i>Failsworth*</i>	<i>Aspatria</i>
<i>New Ferry†</i>	<i>Kirkham</i>	<i>Littleborough*</i>	<i>Cleator Moor</i>
<i>Northwich†</i>	<i>Leigh</i>	<i>Middleton*</i>	<i>Cockermouth</i>
<i>Runcorn†</i>	<i>Liverpool Area</i>	<i>Oswaldtwistle*</i>	<i>Harrington</i>
<i>Winsford†</i>	<i>Mossley</i>	<i>Pemberton*</i>	<i>Keswick</i>
	<i>Nelson</i>	<i>Radcliffe*</i>	<i>Longtown</i>
<i>Lancashire</i>	<i>Oldham</i>	<i>Royton*</i>	<i>Maryport</i>
<i>Accrington</i>	<i>Ormskirk</i>	<i>Shaw*</i>	<i>Millom</i>
<i>Ashton-under-Lyne</i>	<i>Padiham</i>	<i>Walkden*</i>	<i>Silloth</i>
<i>Bacup</i>	<i>Preston</i>	<i>Widnes*</i>	<i>Whitehaven</i>
<i>Blackburn</i>	<i>Prestwich</i>	<i>Rawtenstall*</i>	<i>Wigton</i>
<i>Bolton</i>	<i>St. Helens</i>	<i>Rochdale*</i>	<i>Workington</i>
<i>Burnley</i>	<i>Standish</i>	<i>Atherton and</i>	
<i>Bury</i>	<i>Upholland</i>	<i>Tyldesley†</i>	<i>Westmorland</i>
<i>Chadderton</i>	<i>Westhoughton</i>		—
	<i>Whitworth</i>		

NORTH-EAST

<i>West Riding</i>	<i>Knottingley</i>	<i>Bentham*</i>	<i>Doncaster†</i>
<i>Colne and</i>	<i>Mexborough</i>	<i>Featherstone*</i>	<i>Goldthorpe†</i>
<i>Barnoldswick¹</i>	<i>Normanton</i>	<i>Thorne*</i>	<i>Hull†</i>
<i>Askern</i>	<i>Ossett</i>	<i>Todmorden*</i>	<i>Maltby†</i>
<i>Barnsley</i>	<i>Penistone</i>	<i>Wombwell*</i>	<i>Royston†</i>
<i>Batley</i>	<i>Pontefract</i>	<i>Carcroft*</i>	<i>Wakefield†</i>
<i>Castleford</i>	<i>Rotherham</i>	<i>Hemsworth*</i>	
<i>Goole</i>	<i>Skelmanthorpe</i>	<i>Horbury*</i>	<i>East Riding</i>
<i>Hoyland</i>	<i>S. Kirby</i>	<i>Wath-on-Deerne*</i>	<i>Withernsea</i>

¹ Partly in Lancashire, partly in Yorkshire

NORTH-EAST—*continued.*

<i>North Riding</i>	Bishop Auckland	Middleton-in-	<i>Northumberland</i>
Thornaby and	Blaydon	Teesdale	Elswick
Stockton ¹	Chester-le-Street	Pallion	Haltwhistle
Guisborough	Chopwell	Seaham Harbour	Heaton
Loftus	Cockfield	Sedgefield	Hexham
Middlesbrough	Consett	Shildon	Newburn
Saltburn	Crook	Shiremoor	Newcastle
Whitby	Dunston-on-Tyne	S. Shields	N. Shields
Stokesley	Durham	Southwick-on-	Prudhoe
Helmley	E. Boldon	Wear	Walker
Pickering	Felling	Spennymoor	Wallsend
Thirsk	Gainford	Stanhope	Whitley Bay
Redcar†	Gateshead	Stanley	Willington Quay
South Bank†	Hartlepool	Sunderland	Amble*
	Haswell	Washington Station	Blyth*
	Horden	W. Hartlepool	Morpeth*
	Houghton-le-	Wingate	Seaton Delaval*
<i>Durham</i>	Spring	Wolsingham	Ashington†
Thornaby and	Jarrow and	Haverton Hill*	Bedlington
Stockton ¹	Hebburn	Westmoor*	Station†
Barnard Castle	Lanchester	Darlington†	
Birtley			

SCOTLAND

SOUTH

<i>Berwick</i>	<i>Peebles</i>	<i>Wigtown</i>	<i>Kirkcudbright</i>
—	—	—	—
<i>Rowburgh</i>	<i>Selkirk</i>	<i>Dumfries</i>	
—	—	Annan	
		Sanquhar*	

EAST CENTRAL

<i>East Lothian</i>	Broxburn	<i>Fife</i>	<i>Angus</i>
Dunbar	Linlithgow	Anstruther	Arbroath
	S. Queensferry	Inverkeithing	Dundee
<i>Midlothian</i>		Roths	Montrose
East Calder	<i>Clackmannan</i>		
Leith	—	<i>Kinross</i>	<i>Kincardine</i>
West Calder		Kinross	Inverbervie
<i>West Lothian</i>	<i>Stirling</i>		<i>Aberdeen</i>
Bathgate	Falkirk*	<i>Perth</i>	Fraserburgh
Bo'ness	Grangemouth*	—	Peterhead

NORTH-EAST AND NORTH

<i>Banff</i>	<i>Nairn</i>	<i>Ross and</i>	<i>Caithness and</i>
Banff	Nairn	Cromarty	Sutherland
Buckie		Fortrose	Thurso
Portsoy		Invergordon	Wick
Cullen	<i>Inverness</i>	Stornoway	
<i>Moray</i>	Beauly	Tain	<i>Orkney and Shetland</i>
Grantown-on-Spey	Inverness		Lerwick

¹ Partly in Durham and partly in the North Riding.

WEST CENTRAL

<i>Ayr</i>	<i>Lanark</i>	<i>Strathaven</i>	<i>Bowling</i>
Ardrossan	Airdrie	Uddington	Clydebank
Catrine	Cambuslang	Wishaw	Dumbarton
Dalry	Carlisle		Helensburgh
Irvine	Coatbridge	<i>Renfrew</i>	Kirkintilloch
Kilbirnie	E. Kilbride	Barrhead	
Kilmarnock	Glasgow Area	Greenock	<i>Argyll</i>
Kilwinning	Hamilton	Johnstone	Campbeltown
Maybole	Lanark	Paisley	Oban
Newmilns	Larkhall	Port Glasgow	Port Charlotte
Stevenston	Lesmahagow	Renfrew	
Stewarton	Motherwell		
	Rutherglen	<i>Dumbarton</i>	<i>Bute</i>
	Shotts	Alexandria	Rothsay

WALES

SOUTH

<i>Monmouth</i>	Barry	Pontypridd	Garnant
Abergavenny	Bridgend	Porth	Kidwelly
Blaina	Caerphilly	Porthcawl	Llandilo
Blackwood	Cardiff	Port Talbot	Llanelli
Blaenavon	Cymmer	Resolven	Penygroes
Caldicott	Dowlais	Swansea	Ammanford*
Chepstow	Ferndale	Taffs Well	Cwmaman*
Crumlin	Gorseinon	Tonypandy	Tumble*
Ebbw Vale	Llantwit Major	Tonyrefail	
Monmouth	Maesteg	Treharris	<i>Pembroke</i>
Newport	Merthyr Tydfil	Treorchy	Fishguard
Pontnewydd	Morrison	Ystalyfera	Haverfordwest
Pontypool	Mountain Ash	Caerau*	Milford Haven
Risca	Mumbles	Clydach*	Pembroke
Tredegarr	Neath	Kenfig Hill*	Tenby
Usk	Ogmore Vale	Newbridge*	
Abersychan*	Penarth	Senghenydd*	<i>Brecknock</i>
	Pontardawe	Ton Pentre*	Brecon
<i>Glamorgan</i>	Pontardulais	Ystradgynhaf*	Brynawr
Aberdare	Pontlottyn		Builth Wells
Aberkenfig	Pontyclun	<i>Carmarthen</i>	Crickhowell
Bargoed	Pontycymmer	Burry Port	Hay

CENTRAL AND NORTH

<i>Cardigan</i>	Newtown	Holyhead	Denbigh
Aberystwyth	Welshpool	Llangefni	Llangollen
Cardigan			Rhosllanerchrugog
Lampeter	<i>Merioneth</i>	<i>Caernarvon</i>	Wrexham
Llandyssul	Corwen	Caernarvon	Cefnawr*
	Harlech	Conway	
<i>Radnor</i>	Towyn	Portmadoc	<i>Flint</i>
Knights		Pwllheli	Buckley
	<i>Anglesey</i>	<i>Denbigh</i>	Holywell
<i>Montgomery</i>	Amlwch	Abergele	Mold
Llanidloes	Beaumaris	Brynmbo	Shotton†

APPENDIX II

POPULATION STATISTICS, 1931-8. COUNTIES, COUNTY BOROUGH, AND CERTAIN OTHER AREAS

	Population, 1931	Estimated population, 1938	Increase or decrease, 1931-8 %
<i>Great Britain</i>			
England	37,359,045	38,749,200	+ 3.7
Wales	2,593,332	2,465,800	- 4.9
Scotland	4,842,980	4,993,126	+ 3.1
<i>London</i>			
Admin. County and City	4,397,003	4,062,800	- 7.6
Middlesex	1,638,728	2,058,300	+ 25.6
Greater London	8,203,942	8,700,000	+ 6.0
<i>South-east England</i>			
Kent ¹	1,219,273	1,411,550	+ 15.8
Kent ²	984,560	1,052,810	+ 6.9
Canterbury C.B.	25,109	25,950	+ 3.3
Surrey ¹	1,180,878	1,427,300	+ 20.9
Surrey ²	511,810	620,580	+ 21.2
Croydon C.B.	233,108	243,400	+ 4.4
West Sussex	222,995	264,900	+ 18.8
East Sussex	546,864	566,680	+ 3.6
Brighton C.B.	147,427	146,500	- 0.6
Eastbourne C.B.	58,542	56,770	- 3.0
Hastings C.B.	66,191	64,620	- 2.4
<i>East England</i>			
Hertfordshire ¹	401,206	485,500	+ 21.0
Hertfordshire ²	338,920	392,770	+ 15.9
Essex ¹	1,755,459	1,917,600	+ 9.2
Essex ²	697,170	810,880	+ 16.3
Southend C.B.	129,783	138,100	+ 6.4
Ipswich C.B.	87,569	95,070	+ 8.6
East Ham C.B.	142,394	129,500	- 9.1
West Ham C.B.	294,278	254,900	- 13.4
Bedfordshire	220,525	261,980	+ 18.8
Luton M.B.	70,486	90,870	+ 28.9
Cambridgeshire	140,004	149,650	+ 6.9
Huntingdonshire	56,206	56,560	+ 0.6
Norfolk	501,910	501,660	- 0.1
Norwich C.B.	126,236	122,300	- 3.1
Yarmouth C.B.	56,771	53,780	- 5.3
Suffolk, West	106,137	103,290	- 2.7
Suffolk, East	294,977	300,770	+ 2.0
<i>South England</i>			
Berkshire	311,453	328,250	+ 5.4
Reading C.B.	97,149	100,400	+ 3.3
Buckinghamshire	271,423	309,600	+ 14.1
Oxfordshire	209,784	229,290	+ 9.3

¹ Total.

² Excluding local authority areas wholly within Greater London in 1938.

	Population, 1931	Estimated population, 1938	Increase or decrease 1931-8 %
<i>South England—contd.</i>			
Oxford C.B.	80,539	94,090	+ 16.8
Hampshire	1,014,316	1,080,900	+ 6.6
Portsmouth C.B.	252,421	258,400	+ 2.4
Southampton C.B.	176,007	180,100	+ 2.3
Eastleigh M.B.	23,434	26,090	+ 11.3
Bournemouth C.B.	116,803	122,100	+ 4.5
Dorsetshire	239,352	252,240	+ 5.4
<i>South-west England</i>			
Cornwall	317,968	309,900	- 2.5
Camborne-Redruth U.D.	36,151	34,920	- 3.4
Devonshire	732,968	741,660	+ 1.2
Exeter C.B.	66,029	69,160	+ 4.7
Plymouth C.B.	213,038	220,270	+ 3.4
Somersetshire	470,292	472,900	+ 0.6
Gloucestershire	790,533	815,620	+ 3.2
Bristol C.B.	403,943	415,500	+ 2.9
Bath C.B.	68,815	68,300	- 0.7
Gloucester C.B.	55,886	56,520	+ 1.1
Forest of Dean ¹	48,465	47,020	- 3.0
Stroud Valley ¹	52,014	53,530	+ 2.9
<i>East Midlands</i>			
Derbyshire	750,211	766,800	+ 2.2
Derby C.B.	142,520	139,000	- 2.5
Chesterfield M.B.	64,160	64,730	+ 0.9
Nottinghamshire	712,731	749,200	+ 5.1
Nottingham C.B.	276,189	278,300	+ 0.8
Lincolnshire	624,453	637,530	+ 2.1
Grimsby C.B.	92,458	92,320	- 0.1
Lincoln C.B.	66,243	63,050	- 4.8
Scunthorpe M.B.	33,761	42,000	+ 24.4
Leicestershire	541,635	565,900	+ 4.5
Leicester C.B.	257,718	263,300	+ 2.2
Northamptonshire	309,474	317,940	+ 2.7
Northampton C.B.	96,546	96,540	—
Rutland	17,401	17,860	+ 2.6
<i>West Midlands</i>			
Herefordshire	111,767	108,660	- 2.8
Shropshire	244,156	241,400	- 1.1
Wellington District ¹	57,735	57,740	—
Worcestershire	420,056	449,670	+ 7.1
Kidderminster M.B.	29,521	32,570	+ 10.3
Worcester C.B.	51,686	53,290	+ 3.1
Dudley C.B.	59,583	61,600	+ 3.4
Staffordshire	1,433,919	1,483,650	+ 3.5
Stoke-on-Trent C.B.	276,639	272,000	- 1.7
Burton-on-Trent C.B.	49,529	46,800	- 5.5
Smethwick C.B.	84,406	79,670	- 5.6
Walsall C.B.	103,059	107,300	+ 4.1
West Bromwich C.B.	81,303	82,680	+ 1.7

¹ As defined in the text of the regional chapter (p. 335).

	Population, 1931	Estimated population, 1938	Increase or decrease, 1931-8 %
<i>West Midlands—contd.</i>			
Wolverhampton C.B.	138,631	145,300	+ 4.8
Cannock Area ¹	113,148	117,684	+ 4.0
Warwickshire	1,533,213	1,651,600	+ 7.7
Birmingham C.B.	1,002,603	1,041,000	+ 3.8
Coventry C.B.	178,126	213,000	+ 19.6
North Warwickshire ¹	101,913	106,440	+ 4.4
<i>North-west England</i>			
Cumberland	263,151	255,120	- 3.1
Carlisle C.B.	57,304	60,220	+ 5.1
Westmorland	65,408	63,450	- 3.0
Cheshire	1,087,558	1,147,180	+ 5.5
Birkenhead C.B.	151,513	144,400	- 4.7
Wallasey C.B.	98,361	94,220	- 4.2
Chester C.B.	45,747	44,360	- 3.0
Stockport C.B.	126,362	134,800	+ 6.7
Lancashire	5,040,172	5,014,520	- 0.5
Liverpool C.B.	856,072	827,400	- 3.3
Bootle C.B.	76,770	74,080	- 3.5
Wigan C.B.	85,357	82,530	- 3.3
St. Helens C.B.	107,452	107,200	- 0.2
Warrington C.B.	81,561	78,140	- 4.2
Barrow C.B.	66,202	66,850	+ 1.0
Blackpool C.B.	106,095	125,800	+ 18.6
Southport C.B.	78,925	78,600	- 0.4
Blackburn C.B.	122,791	113,000	- 8.0
Bolton C.B.	177,250	169,400	- 4.4
Burnley C.B.	98,258	88,650	- 9.8
Bury C.B.	58,345	59,380	+ 1.8
Oldham C.B.	140,314	126,100	- 10.1
Preston C.B.	119,665	113,200	- 5.4
Rochdale C.B.	95,527	91,290	- 4.4
Manchester C.B.	766,311	732,900	- 4.4
Salford C.B.	223,438	199,400	- 10.8
<i>North-east England</i>			
Yorkshire, East Riding	482,936	503,330	+ 4.2
Hull C.B.	313,649	318,700	+ 1.6
Yorkshire, West Riding ²	3,352,411	3,359,600	+ 0.2
Barnsley C.B.	73,877	72,300	- 2.1
Doncaster C.B.	64,708	71,600	+ 10.7
Rotherham C.B.	75,223	76,430	+ 1.6
Sheffield C.B.	518,257	520,000	+ 0.3
Selby U.D.	10,064	10,030	- 0.3
Goole M.B.	20,239	19,560	- 3.4
Bradford C.B.	293,692	288,700	- 3.3
Dewsbury C.B.	54,302	52,860	- 2.7
Halifax C.B.	98,115	97,370	- 0.8
Huddersfield C.B.	123,048	126,240	+ 2.6
Leeds C.B.	482,827	494,000	+ 2.3
Wakefield C.B.	59,305	59,000	- 0.5

¹ As defined in the text of the regional chapter (p. 354). ² Does not include York.

	Population, 1931	Estimated population, 1938	Increase or decrease, 1931-8 %
<i>North-east England—contd.</i>			
Castleford U.D.	43,990	43,090	—
Pontefract M.B.	19,868	21,340	+ 7.4
York C.B.	94,066	100,800	+ 7.2
<i>North England</i>			
Yorkshire, North Riding	466,766	473,300	+ 1.4
Middlesbrough C.B.	138,960	139,800	+ 0.6
Durham	1,486,175	1,440,090	— 3.1
Darlington C.B.	72,086	75,930	+ 5.3
West Hartlepool C.B.	69,450	70,360	+ 1.3
Sunderland C.B.	185,903	182,400	— 1.9
Gateshead C.B.	124,545	117,000	— 6.1
South Shields C.B.	113,185	110,400	— 2.5
Northumberland	756,782	763,710	+ 0.9
Newcastle C.B.	286,255	291,300	+ 1.8
Tynemouth C.B.	65,919	66,510	+ 0.9
<i>South Wales</i>			
Carmarthen	179,100	172,700	— 3.6
Llanely M.B.	38,416	36,890	— 4.0
Glamorgan	1,229,065	1,156,130	— 5.9
Cardiff C.B.	226,937	224,280	— 1.2
Swansea C.B.	164,797	161,100	— 2.2
Port Talbot M.B.	40,678	40,180	— 1.2
Merthyr Tydfil C.B.	71,108	62,250	— 12.5
Monmouth	431,610	401,210	— 7.0
Newport C.B.	98,447	95,910	— 2.6
<i>Central and North Wales</i>			
Anglesey	49,029	46,530	— 5.1
Brecknock	57,775	53,060	— 8.2
Cardigan	55,184	52,120	— 5.6
Caernarvon	120,829	118,590	— 1.9
Denbigh	157,648	156,840	— 0.5
Flint	112,889	121,020	+ 7.2
Merioneth	43,201	39,970	— 7.5
Montgomery	48,473	44,890	— 7.4
Pembroke	87,206	83,200	— 4.6
Radnor	21,323	19,540	— 8.4
<i>South-east Scotland</i>			
Berwick	26,612	26,295	— 1.2
East Lothian	47,338	47,753	+ 0.9
Midlothian	526,296	559,202	+ 6.3
Edinburgh B.	439,010	469,448	+ 6.9
Peebles	15,051	14,471	— 3.9
Roxburgh	45,685	45,783	+ 0.2
Selkirk	22,711	21,923	— 3.5
West Lothian	31,431	33,524	+ 2.6
<i>West Scotland</i>			
Argyll	63,050	61,600	— 2.3
Ayr	285,217	294,050	+ 3.1
Bute	18,823	16,560	— 12.0
Clackmannan	31,948	33,117	+ 3.7
Dumbarton	146,723	155,243	+ 5.2

	Population, 1931	Estimated population, 1938	Increase or decrease 1931-8 %
<i>West Scotland—contd.</i>			
Dumfries	81,070	81,818	+ 0.9
Kirkcudbright	30,318	30,859	+ 0.1
Lanark	1,587,663	1,635,937	+ 3.0
Glasgow B.	1,093,337	1,127,825	+ 3.2
Renfrew	287,991	317,179	+ 10.1
Stirling	166,447	173,410	+ 4.2
Wigtown	29,331	29,723	+ 1.3
<i>East Scotland</i>			
Angus	270,190	272,847	+ 1.0
Dundee B.	176,424	177,960	+ 0.9
Fife	276,368	284,082	+ 2.8
Kinross	7,454	7,028	- 5.7
Perth	120,793	119,657	- 0.9
<i>North-east Scotland</i>			
Aberdeen	313,521	325,231	+ 3.7
Aberdeen B.	169,803	178,199	+ 4.9
Banff	54,907	53,567	- 2.4
Kincardine	26,780	26,443	- 1.3
Moray	40,806	40,844	+ 0.1
Orkney	22,077	21,799	- 1.3
Zetland	21,421	20,155	- 5.9
<i>North Scotland</i>			
Caithness	25,656	25,742	+ 0.3
Sutherland	16,101	15,293	- 5.0
Caithness and Sutherland	41,757	41,035	- 1.7
Inverness	82,108	81,342	- 0.9
Nairn	8,294	8,303	+ 0.1
Ross and Cromarty	62,799	62,846	+ 0.1

APPENDIX III

STATISTICS OF UNEMPLOYMENT, 1929-37. COUNTY BOROUGHES AND CERTAIN OTHER AREAS

Exchange Areas	Percentage of workers unemployed (monthly average)		
	1929	1932	1937
<i>South-east England</i>			
Canterbury	3.9	9.7	5.3
Croydon	3.8	14.4	4.7
Brighton	5.0	11.4	8.0
Eastbourne	2.6	10.0	5.7
Hastings	5.4	13.2	10.2
<i>East England</i>			
Southend	6.3	15.1	11.4
Ipswich	7.1	17.6	6.4
East Ham	6.2	24.1	6.4
Luton	4.1	7.9	5.5
Norwich	9.5	15.8	11.2
Yarmouth	14.1	24.2	18.5
<i>South England</i>			
Reading	5.6	11.8	7.4
Oxford	3.8	9.0	7.4
Portsmouth	9.6	17.2	8.3
Southampton	9.2	22.6	9.7
Eastleigh	1.6	11.0	2.6
Bournemouth	3.8	9.0	7.4
<i>South-west England</i>			
Camborne	15.4	31.8	14.1
Redruth	14.3	42.7	29.0
Exeter	5.4	10.5	7.9
Plymouth	13.4	20.6	11.7
Bristol	11.8	20.4	9.4
Bath	8.7	15.4	5.4
Gloucester	12.4	19.0	5.7
Forest of Dean ¹	16.4	38.6	14.5
Stroud and Dursley	8.7	15.1	5.5
<i>East Midlands</i>			
Derby	5.3	13.6	3.9
Chesterfield	16.7	30.6	12.8
Nottingham	9.4	14.6	9.2
Grimsby	8.4	17.4	15.1
Lincoln	10.7	29.1	8.5
Scunthorpe	4.2	25.7	2.9
Leicester	6.0	12.0	7.4
Northampton	11.1	18.0	9.2
<i>West Midlands</i>			
Wellington District ²	16.0	29.4	9.1
Kidderminster	5.6	9.9	7.6
Worcester	8.7	16.3	7.1

¹ Lydney, Cinderford, Coleford.

² Ironbridge, Oakengates, Wellington.

Exchange Areas	Percentage of workers unemployed (monthly average)		
	1929	1932	1937
<i>West Midlands—contd.</i>			
Dudley	17·8	34·5	10·1
Smethwick	7·0	17·6	3·7
Walsall	12·2	26·6	9·8
West Bromwich	11·4	27·1	5·0
Wolverhampton	11·6	25·0	7·2
Birmingham	6·8	15·3	4·3
Coventry	4·9	15·1	4·1
North Warwickshire ¹	9·9	17·1	7·5
Stoke-on-Trent	16·5	28·4	14·6
Burton-on-Trent	7·2	18·0	5·7
Cannock	6·4	11·4	6·0
<i>North-west England</i>			
Barrow	12·8	27·1	34·2
Carlisle	9·4	18·4	16·9
Chester	9·3	16·2	17·1
Stockport	16·1	29·7	25·1
Birkenhead	16·7	35·7	36·3
Wallasey	17·3	29·9	30·0
Liverpool and Bootle	18·2	29·7	28·8
Wigan	22·9	35·4	32·5
St. Helens	14·7	28·2	30·7
Warrington	10·3	23·2	21·9
Blackpool	12·7	23·7	21·6
Southport	10·6	18·5	19·3
Blackburn	14·3	46·8	33·3
Bolton	16·5	33·3	27·0
Burnley	10·7	36·7	24·9
Bury	11·5	33·2	23·3
Oldham	12·8	39·3	30·4
Preston	13·9	27·2	22·4
Rochdale	8·3	33·7	26·5
Manchester	8·4	18·7	16·3
Salford	14·3	31·2	25·7
<i>North-east England</i>			
Hull	14·2	21·4	13·3
Selby	10·8	33·5	13·6
Goole	11·0	28·3	19·6
Barnsley	16·3	44·6	24·3
Doncaster	7·3	25·5	11·1
Rotherham	13·1	33·0	13·7
Sheffield	15·4	34·0	9·7
Bradford	14·8	17·9	10·5
Dewsbury	15·0	22·8	12·8
Halifax	9·8	16·6	6·0
Huddersfield	7·9	18·6	6·7
Leeds	10·5	20·6	9·3
Wakefield	14·5	25·7	11·3
Castleford	13·3	29·2	20·4

¹ Tamworth, Atherstone, Nuneaton, Bedworth.

Exchange Areas	Percentage of workers unemployed (monthly average)		
	1929	1932	1937
<i>North-east England—contd.</i>			
Pontefract	17.5	31.1	19.4
York	9.6	18.2	8.5
<i>North England</i>			
Middlesbrough	12.2	41.9	15.2
Darlington	13.0	33.5	9.1
The Hartlepoons	23.1	48.5	22.5
Sunderland	20.8	46.7	25.6
Gateshead	25.5	44.6	28.8
South Shields	24.7	45.3	29.4
Newcastle	17.4	26.7	14.3
North Shields	24.4	45.6	30.6
<i>South Wales</i>			
Llanelly	18.1	32.7	16.0
Cardiff	18.6	29.6	18.8
Swansea	22.5	37.5	23.5
Port Talbot	31.0	48.9	19.9
Merthyr Tydfil	44.7	60.9	41.6
Newport	22.7	37.4	19.7
<i>Scotland</i>			
Edinburgh	9.2	15.5	11.1
Glasgow	14.6	30.7	17.4
Aberdeen	8.1	18.5	12.8
Dundee	12.0	35.0	21.3

Based on the *Ministry of Labour's Monthly Unemployment Index*.

CHAPTER II

GENERAL TRENDS IN INDUSTRIAL DEVELOPMENT: PROBABLE PERMANENT EFFECTS OF THE WAR

GENERAL EFFECTS OF THE WAR

THE ABOLITION OF UNEMPLOYMENT

AS a result of the war excess unemployment has practically disappeared, along with a large part of general unemployment. In July 1943 the number of workers unemployed in the whole of Great Britain was 111,467, including 18,488 who were classified as unsuitable for normal industrial employment and 33,067 workers on the 'two months file', who had registered as unemployed at some time in the previous two months and were not known to have found work, but had not maintained their registration for employment—many of these would presumably have found work in the interval. When allowance is made for the workers on the two months file and for those who are regarded as unfit for normal employment, it is doubtful whether genuine unemployment in July 1943 affected as many as $\frac{1}{2}$ per cent of the number of workers insured before the war; to all intents and purposes, unemployment had disappeared. There are, of course, areas where its disappearance was relatively slow. Dundee is a good example; owing to the high proportion of married women normally employed in the jute industry, to a number of other causes which reduced the mobility of local labour, and to the fact that Dundee is in an exceptionally exposed situation on the East Coast, unemployment remained in the neighbourhood of 6 per cent as late as September 1941, when the national unemployment rate had fallen to approximately $1\frac{1}{2}$ per cent. During the third and fourth years of war unemployment even in areas of this type was reduced in nearly all cases to vanishing point.

In many ways, one of the most significant features of the practical abolition of cyclical, secular, and even 'normal' unemployment has been the demonstration of the extraordinarily low proportion of the unemployed who are completely unfit for work, and incapable of being re-trained for it. At the end of a decade of particularly severe unemployment, during the last part of which the number of workers unemployed for a year or more never fell below a quarter of a million, it appears that no more than 18,100 men could be regarded as totally unemployable; the 411 women registered as unsuitable for normal industrial work have been left out of account, since a number of them were unsuitable only in the sense that they could take only part-time work. The 18,100 unemployable men are equivalent to about 0.2

per cent of the number of insured men aged 16-64 and to between $2\frac{1}{2}$ per cent and 3 per cent of the number of workers who could be regarded as forming the hard core of excess unemployment in 1937. The case of South Wales, where depression was as severe as in any area and more prolonged than in almost any other, is particularly striking. In June 1941, when the standard of unemployability was fixed at a higher level than was later found to be necessary (there were then 35,000 workers registered as unsuitable for normal industrial employment in the country as a whole, as against the 18,500 of July 1943), the number of workers in the South Wales Survey area who were regarded as unemployable was approximately 5,000. This was equivalent to about $1\frac{1}{4}$ per cent of the pre-war insured population of the same area, and $9\frac{1}{2}$ per cent of the workers who made up the hard core of excess unemployment in October 1937. It is of course true that the war, by creating an insatiable demand for labour, has resulted in the employment of many workers who would have been definitely classified before the war as unemployable. But the contrast is not so much between war and peace as between conditions of full employment and the condition of widespread excess unemployment which persisted for fifteen years before 1939; there is no reason to suppose that under conditions of full employment in peace-time the proportion of completely unemployable workers would prove to be substantially higher than experience during the war has indicated.

CHANGES IN THE REGIONAL AND INDUSTRIAL DISTRIBUTION OF INCOMES

The abolition of unemployment has been accompanied by a substantial alteration in the relative earnings of workers in different trades. Between the winter of 1938-9 and the spring and summer of 1940¹ the average earnings of wage-earners (except clerical staff) in all insurable occupations increased by approximately 22 per cent. Earnings in five staple trades (cotton, wool, coal mining, ship-building and repairing, and iron and steel manufacture), which were particularly depressed before the war, rose 32 per cent, and earnings in engineering and the motor, cycle, and aircraft group rose respectively by 40 per cent and 48 per cent. At the same time, earnings in seven 'local' trades—distribution, building, public utilities, road passenger and goods transport, laundries and cleaners, and bread, biscuits, and cake—rose only 14 per cent, and earnings in a number

¹ For most industries the Ministry of Labour's figures showing the change in earnings between October 1938 and July 1940 have been used. They have been supplemented with figures for distribution and coal mining prepared by the National Institute for Economic and Social Research and published in the *Economic Journal* for July-September 1940. These figures refer to March 1939 and March 1940; they have been used as if they referred to the same period as the Ministry of Labour's statistics.

TABLE 12
AVERAGE PERCENTAGE INCREASE IN WEEKLY EARNINGS
BETWEEN OCTOBER 1938 AND JULY 1943

	Men (21 years and over)	Women (18 years (and over)
Metal, Engineering and Shipbuilding	84	110
Rubber, Oilcloth, Linoleum, Scientific and Photo- graphic Instruments, Musical Instruments, Toys, Games, Miscellaneous	78	87
Government Industrial Establishments	76	81
Textiles	69	67
Chemicals, Paints, Oils, etc.	68	95
Processing of Non-metalliferous Mine and Quarry Products	65	99
Bricks, Pottery, Glass	65	77
Building, Contracting, etc. ¹	64	—
Mining and Quarrying (not Coal)	63	—
Food, Drink, Tobacco	56	54
Leather, Fur, etc.	56	46
Clothing	54	53
Woodworking	54	69
Transport and Storage (not Railways)	49	105
Public Utility Services	40	73
Paper, Printing, Stationery, etc.	34	50
All the above	76	91

From the *Ministry of Labour Gazette*, February 1944.

of other industries which had expanded before the war, including paper and printing, clothing, and woodworking, rose by amounts varying between 3 per cent and 17 per cent. In the summer of 1943 the position was similar, as Table 12 shows, though earnings had risen very much further than in the summer of 1940. Broadly speaking, the greatest increases in both men's and women's earnings between October 1938 and July 1943, in the trades surveyed by the Ministry of Labour, took place in the groups which include the industries which were most acutely depressed before the war, and the smallest increases occurred in industries such as food, drink, and tobacco, clothing, or the public utility services, which before the war were relatively prosperous. There are of course exceptions. There are industries such as the motor, cycle, and aircraft group which were exceptionally prosperous before the war, and which have

¹ It should be remembered that earnings in a summer month are being compared with earnings in October. In January 1943 men's earnings in building and contracting were 43 per cent above the level of October 1938, as compared with a rise of 65 per cent in men's earnings in all the above trades.

shown an exceptionally rapid increase in earnings during it; and on the other hand there are industries such as tinplate or jute manufacturing (both, as it happens, highly localized) which were relatively depressed in 1938 and which experienced only moderate or relatively small increases of earnings during the first three and a half years of war. By and large, however, the same impression is given by the Ministry of Labour's figures for earnings in 1943 as by the figures for 1940. No general statistics are available since 1940 for industries not included in the Ministry of Labour's list; but it is worth adding that it was officially stated in 1943 that the average rate of wages in coal mining rose between 1939 and 1942 from the eighty-first place in the list of average rates in different industries to the twenty-third.¹ Earnings had also risen sharply. Average weekly cash earnings and allowances in kind amounted to 57s. 11d. in 1938, and to 103s. 3d. in 1943, an increase of 78 per cent.²

As a result of the abolition of unemployment and of the rise in the relative earnings of workers in many of the trades which were formerly depressed the level of current incomes in many of the formerly depressed districts has been brought up to, or above, the level of prosperous districts in the Midlands and South. The effect of this change can best be judged by reference to the Bank of England's statistics of retail sales in the early summer of 1940, after the change in earnings and the fall in unemployment had begun to take effect, but before rationing, savings campaigns, the exhaustion of stocks, and the imposition of the purchase tax and of heavier direct taxation had restricted spending to the same extent as in the later years of the war. Taking average daily sales in 1937 as 100 in each case, the value of sales of all classes of goods in 1940 reached 104 in London and the South, 122 in the Midlands and South Wales, and 120 in the North and Scotland. Sales of non-food goods (clothes, boots and shoes, hardware, furniture, and materials for clothes and furnishing) are probably a better index of prosperity; they reached 99 in the South, 125 in the Midlands and South Wales, and 122 in Scotland and the North. The high level of purchases in the Midlands represented, of course, merely a continuance of pre-war prosperity; the really remarkable contrast is between Wales, Scotland, and the North on the one hand and London and the South on the other. As Table 13 shows, this contrast remained in 1943 in spite of the many restrictions on sales which arose or were imposed in the three preceding years.

To some extent the figures of sales both in 1940 and in 1943 were influenced by population movements; but there is reason to believe that, except in the case of London and the areas round it, influences

¹ By the Minister for Fuel and Power, House of Commons, 13.10.43.

² *Statistical Digest from 1938* (Cmd. 6538), Table 34.

of this kind were principally local. As the change in the distribution of sales between Central London and the suburbs suggests, the distribution of spending between a blitzed or exposed town and its suburbs, or the market towns around it, might be very greatly affected by movements of population, and there are individual towns, or even counties, where an influx of evacuees or munition workers has made a considerable difference; except in the case of London and of parts of Southern and Eastern England, the distribution of sales between the big regions to which Table 13 refers was affected between 1939 and 1943 to a far smaller extent. It can be shown that on the basis of population figures alone the index of sales in London and the South of England together, including the area adjoining London to the East and North, should in 1943 have been about 5 per cent or 6 per cent below the index for the North-east. In actual fact, if the index for sales of non-food goods in the North-east in 1943 is taken as 100, the combined index for London and the South would be about $76\frac{1}{2}$, or $23\frac{1}{2}$ per cent below it. Several factors contributed to the relative lowness of the index for London and the South, including the severe impact of rationing on an area where the level of pre-war incomes was relatively high, and the transport difficulties which discouraged people in the Midlands and North from shopping periodically in London; but there is little doubt that the main cause was the increased prosperity in the North-east, which resulted from the shift in wage rates and earnings and from the disappearance of unemployment.

MIGRATION

The fact that population movements have not been of such a kind as to cause a big shift in the distribution of sales between most of the wide regions to which the Bank of England's index of retail sales refers does not, of course, imply that they have not been extensive and important. The Minister of Health told the National Housing and Town Planning Council in October 1943 that there had been $22\frac{1}{2}$ million movements by civilians between districts since the outbreak of war; this is equivalent to about 54 per cent of the estimated population of England and Wales in June 1939. There is some reason to think that the Minister's statement did not take account of the very large number of movements which occurred during the first rush of evacuation before the establishment of the National Register. Including both official and unofficial evacuation, there may have been perhaps $2\frac{1}{2}$ million outward movements from exposed areas in England and Wales alone, and there was a considerable reflux before the National Register was taken; altogether, movements of this kind may have been equivalent to as much as 10 per cent of the total population. If this 10 per cent has to be added to the

Minister's 55 per cent, it appears that the number of civilian movements across district boundaries between August 1939 and October 1943 may have been equivalent to a movement of nearly two-thirds of the total population.

The statistics of wartime migration include a high proportion of movements for short periods which do not involve any permanent change of district. The impermanence of many wartime movements is illustrated by the history of the first evacuation scheme; of 1,161,365 mothers and children originally evacuated in September 1939, no less than 684,250, or 59 per cent, were known to have returned by the first week in January 1940. It is illustrated from a rather different angle by the case of a borough which was heavily attacked on two successive nights. About 90 per cent of its population were forced to move over the borough boundary; within a few months, as repairs to damaged houses were completed, about half of the evacuated population moved back. On the other hand, wartime migration statistics take no account of the very extensive movements of men and women in the Forces, and there is reason to believe that in the first years of the war a considerable proportion of short-period migration was not recorded in the official statistics. It is impossible to make any exact comparison between wartime and pre-war movements of population, since the only reliable pre-war statistics refer to the net balance of migration, which for most areas is very small in comparison with the total movements of population. There are indications that the rate of movement of the civilian population during the war has been more than twice as great as the normal rate of movement in the 'thirties; but the most that can safely be said is that the rate of movement in war has been considerably greater than in peace, though not out of all proportion to it.

The real importance of wartime movements of the civilian population lies less in their scale than in their character. The age-groups involved are different; as a result of evacuation an exceptionally high proportion of children have changed their homes during the war. The migration which has occurred among adults has been due very largely to reasons which did not operate before the war. There are in all probability some millions of people who in peace-time would have moved to a house in a new district, or to work in a new town, and who have not moved; while on the other hand many, if not most, of the millions who have moved have not gone of their own free will, or at least have not gone to the places which in peace-time they would have preferred. The Minister of Health stated in March 1943 that a hundred thousand families were living in houses which had already been condemned before the war, and a further two hundred thousand in houses which would have been condemned in the previous three and a half years if war had not broken out, making

altogether a million or more people who, if war had not occurred, would have made a move which in many cases would have carried them across a district boundary. He pointed out at the same time that the normal flow of families not living in slum houses to better accommodation had been blocked by the stoppage of building; 135,000 houses had been completed since the war, as compared with the million and a quarter which would have been finished if building had continued at the peace-time rate.

On the other side of the picture, some 202,000 houses were destroyed or damaged beyond repair in Great Britain and Northern Ireland between September 1939 and the end of September 1944, and 255,000 were damaged and rendered uninhabitable; over four million were less severely damaged.¹ The number of at least temporary removals caused in some areas by war damage, even where houses were not beyond repair, is illustrated by the extreme case of the borough which has just been mentioned. There has been an enormous volume of anticipatory evacuation from London and the South and East Coasts, as well as from a number of other big towns and ports; the figure of 2½ million outward movements in the first month of the war has just been quoted. There has in addition been what the Parliamentary Secretary to the Ministry of Labour described as 'a substantial transfer of labour' to the main munition centres.² The scale on which transfer has occurred can be judged from the fact that by the end of 1943 some 55,000 or 60,000 workers had been moved from the North-east Coast alone—7½ per cent of the pre-war insured population³—and that the equivalent of 6½ per cent of the number of women insured in Dundee before the war had been transferred by the same date.⁴ The Parliamentary Secretary to the Ministry of Labour pointed out that transference has taken place for the most part by persuasion and inducement, and that in the case of women, of whom 9,600,000 had been registered under the Registration for Employment Order, 1941, only 26,000 compulsory directions to work had been necessary; these included directions to work in a woman's own home town as well as directions to transfer to another area. Persuasion, however, is an elastic term; there is no question that very large numbers of both men and women have been sent to work, though without any formal compulsion, in areas and occupations to which they would never have moved as free agents in peace-time.

A general impression of the extent to which the peace-time distribution of the population has been disturbed during the war can be obtained from Table 14. The wartime figures refer to April 1942,

¹ White Paper on *Statistics Relating to the War Effort of the United Kingdom*, Cmd. 6564, p. 32.

² Article in the Russian paper, *British Ally*, August 1943.

³ *Economist*, 6.11.43.

⁴ *The Times*, 24.11.43.

TABLE 14
DISTRIBUTION OF THE POPULATION OF GREAT BRITAIN
BY REGIONS

Region	Percentage of Population living in each Region			Actual estimated population June 1938 000's	Estimated increase or decrease in the civil population, 1938-42, allowing for the change in the civil population in the country as a whole ¹	
	Census of 1931 (total population)	June 1938 (total population)	April 1942 (civilian population)		Number 000's	Per cent of 1938
London (L.C.C., Middlesex)	13.5	13.3	10.3	6,121	-1,308	- 21.3
Eastern (Hertford, Bedford, Essex, Cambridge, Ely, Huntingdon, Norfolk, Suffolk)	7.9	8.4	8.1	3,858	- 95	- 2.4
South-eastern (Kent, Surrey, Sussex)	7.1	7.9	7.6	3,670	- 153	- 4.1
Southern (Oxford, Berkshire, Buckingham, Hampshire, Isle of Wight, Dorset)	4.8	4.9	5.3	2,286	+ 170	+ 7.5
South-western (Wiltshire, Gloucester, Somerset, Devon, Cornwall)	5.8	5.7	6.7	2,646	+ 406	+ 15.4
West Midland (Warwick, Stafford, Shropshire, Worcester, Hereford)	8.4	8.5	9.1	3,935	+ 269	+ 6.9
North Midland (Northampton, Peterborough, Rutland, Leicester, Lincoln, Nottingham, Derby)	6.7	6.6	7.2	3,050	+ 280	+ 9.2
North-western (Cheshire, Lancashire, Cumberland, Westmorland)	14.4	14.2	14.4	6,541	+ 91	+ 1.2
North-eastern (East and West Ridings: York)	8.8	8.6	8.4	3,964	- 77	- 1.9
Northern (Durham, Northumberland, North Riding)	6.0	5.8	5.9	2,677	+ 63	+ 2.4
Wales	5.8	5.3	5.9	2,466	+ 226	+ 9.2
Scotland	10.8	10.8	11.1	4,993	+ 128	+ 2.6
Total	100.0	100.0	100.0	46,208	{+1,633, -1,633}	—

¹ The civilian population of Great Britain in April 1942 appears to have been 5.7 per cent smaller than the estimated total population in June 1938, and a

a time when the first outburst of severe air attacks had ended, while the renewed attacks of the winter of 1943-4 and the summer of 1944 were still in the future. The redistribution of population was undoubtedly greater when air raids were at their height; but published figures for November 1940, in the middle of the first blitz, do not suggest that the picture presented by Table 14 would have been substantially different if another date had been chosen.¹

The main impression given by the table is of the persistence of the pre-war distribution of the population. The direction of pre-war trends was frequently (though not invariably) reversed, and in absolute terms changes were large; there appears to have been a net shift of between $1\frac{1}{2}$ and $1\frac{3}{4}$ million people from London, the South-east, and the East Coast regions towards the North and West between 1938 and 1942, which may be roughly compared with the net loss of a million and a quarter people from the Ministry of Labour's divisions in the North of England, Scotland, and Wales over the whole period from 1923 to 1936.² Large as they were, these shifts made comparatively little difference to the proportionate distribution of population between regions. The biggest disturbance was naturally in London and the counties most affected by evacuation from the London area; but even here it is remarkable how little the peace-time distribution of the population between large regions was altered. The most striking changes took place for the most part within regions, without affecting the inter-regional balance. In the towns and districts which have been most heavily hit by evacuation, or in areas such as the belt of counties to the North and West of London, or the counties of North Wales, or the parts of Western Scotland which are not yet industrialized, there have been changes very much greater than any recorded in Table 14.

corresponding adjustment to the regional figures has been made in arriving at the last two columns above; e.g. the apparent fall in the population of the London region was 27.0 per cent: this has been adjusted to 21.3 per cent.

The regions used correspond approximately to Civil Defence Regions, except that the parts of Hertfordshire, Essex, Kent, and Surrey which are within the Greater London Civil Defence Region are included here in the same Region as the remainder of each county.

Source: Census of 1931, estimates by the Registrar-General for 1938, and for 1942 estimates by F. A. Burchardt based on figures of sugar ration registrations published by the Board of Trade (*Bulletin of the Institute of Statistics*, 6.14).

¹ The figures for November 1940, published in *World's Press News*, 27.2.41, relate to England and Wales alone, and are not entirely comparable with the Registrar-General's normal estimates: but they are accurate enough to give a fair impression of the regional distribution of population.

² Table 2. It will of course be appreciated that the comparison is designed only to give a rough impression of magnitudes: like is not strictly compared with like.

Looking at the country as a whole, the change during the war in the character of movements of the civilian population is obvious. Peace-time trends have been disturbed or reversed. Peace-time incentives have largely ceased to operate, including particularly housing development and the demand for labour in certain flourishing peace-time industries; instead, population movements have been based on the danger of enemy attack and the needs of industries of which a number were depressed down to the beginning of the rearmament boom. There has been a very much greater element of compulsion to move than in peace-time, and movements have proceeded with only a minimum of consideration for housing or other amenities. It is clear that wartime population movements have been almost entirely different in kind from the movements which took place in the last years of peace, and their importance for the future must be judged accordingly.

THE ADJUSTMENT OF INDUSTRY TO THE WAR: 'LABOUR

The publication, while the present volume was in the press, of the Government's White Paper on *Statistics Relating to the War Effort of the United Kingdom*¹ has made it possible to describe in some detail wartime developments which previously could be referred to only in general terms. It is clear, in the first place, that the adjustment of industry to war conditions—or, looking at it the other way round, the dislocation of industry in relation to peace-time requirements—has been carried considerably further in this war than it was in the last. Adaptation has naturally not been entirely in the same directions. In some industries the decline between the two wars in exports, and therefore in production surplus to home requirements, has limited the possibility of cuts in production and employment. Cotton is perhaps the outstanding example; between 1913 and 1918 exports of cotton piece goods fell by 3,400 million linear yards, or not far short of double the whole average annual export and four-fifths of total production between 1936 and 1938, and the scope for reduction in the present war was naturally far smaller. Exports of cotton piece goods fell between 1938 and 1944 by slightly over 1,000 million linear yards, while production of yarn for the home and export markets together fell by 36 per cent. Coal was in some ways a similar case. Coal exports fell between 1913 and 1918 by 42,000,000 tons, or more than the whole amount of British coal exports in any year since 1931; the far more drastic proportionate restriction of British exports between 1939 and 1943 reduced shipments by no more than 33½ million tons. In coal mining and a number of other industries, wartime requirements, quite apart from the question of overseas trade, have involved the maintenance of

¹ Cmd. 6564.

production and employment nearer the peace-time level than in the last war. This has been notably true of agriculture, in which employment in June 1944 was actually greater than in June 1939, as against a fall of around a fifth between 1914 and 1918. It has also been true of at least one major manufacturing industry in which a rapid expansion might have been expected, iron and steel. The Balfour Committee estimated that between 1913 and 1927, and principally as a result of the Great War, steel manufacturing capacity increased by over 50 per cent, and capacity in rolling mills and forges by about 40 per cent. During the present war there has been a substantial increase in capacity for producing special steels, and it is possible (though by no means certain) that there may be some surplus capacity in this section for a time after the immediate needs of reconstruction have been met. In general, however, to quote the *Economist*:

'The plant of the heavy industries has not undergone the dramatic expansion of the last war. Indeed, it has hardly been necessary to bring in all the sub-marginal plant which had to be drawn on in the last boom year before the war.' (*Economist*, 27.6.42.)

The output of steel ingots and castings in the war years to 1943 was actually a little below the 1939 level—7 per cent below it in the lowest year, 1941—while pig-iron output, after rising slightly between 1939 and 1940, fell back by 1943 to 10 per cent below the output of 1939.

With all these limitations, the case is clear enough. Practically a third of the men and women of working age in the United Kingdom¹ in the middle of 1944 were in the Forces, the whole-time Civil Defence services, or munition industries, as against rather more than a quarter in 1918 (Table 15). 17.8 per cent were in essential basic industries, such as transport, the public utility services, mining, agriculture, the food industries, and Government civilian services, against 15.3 per cent in 1918; and rather less than 50 per cent, as against 57 per cent, were in less essential industries or the 'rest of the population'—housewives, domestic servants, invalids, and the unemployed or retired. Some 76 per cent of the workers in manufacturing industries at the middle of 1944 were engaged on Government work, 20 per cent on work for the home market, and 4 per cent on producing goods for export. The volume of exports was reduced by 1943 to 29 per cent of its size in 1938, and the value of exports to 49 per cent: the latter figure may be compared with 95 per cent, the value of exports in 1918 as a percentage of exports in 1918. Sales in civilian markets at home were in some cases equally hard-hit; by 1943 sales of civilian cars and bicycles fell to 11 per cent of their 1938 volume, sales of furniture and furnishings to 23 per cent, and hardware sales to

¹ Two part-time workers are counted as one full-time worker in this calculation.

Industry or Service	Males aged 14-64						Females aged 14-59 ¹						Total			
	Number			Per cent			Number			Per cent			Number		Per cent	
	June 1939	June 1944	June 1944	June 1939	June 1944	June 1944	June 1939	June 1944	June 1944	June 1939	June 1944	June 1944	June 1939	June 1944	June 1939	June 1944
Armed Forces and Women's Auxiliary Services . . .	477	4,502	28.3	3.0	28.3		—	467		2.9	477	4,969	1.5	15.6		
Civil Defence . . .	80	225	0.5	0.5	1.4		—	56		0.3	80	281	0.2	0.9		
Group I: Metal and Chemical Industries ² . . .	2,600	3,210	20.2	16.2	20.2		506	1,851		3.1	3,106	5,061	9.7	15.9		
Group II: Agriculture, horticulture, etc. Mining . . .	1,046	948	6.5	6.5	6.0		67	184		0.4	1,113	1,132	3.5	3.5		
National Government Service . . .	868	802	5.4	5.4	5.0		5	13		—	873	815	2.7	2.5		
Local Government Service . . .	416	520	2.6	2.6	3.3		123	495		0.8	539	1,015	1.7	3.2		
Gas, Water, and Electricity Supply . . .	520	322	3.2	3.2	2.0		326	468		2.0	846	790	2.6	2.5		
Transport, Shipping, and Fishing . . .	225	160	1.4	1.4	1.0		17	32		0.1	242	192	0.8	0.6		
Food, Drink and Tobacco . . .	1,222	1,038	7.6	7.6	6.5		51	212		0.3	1,273	1,250	4.0	3.9		
	391	269	2.5	2.5	1.7		263	240		1.7	654	509	2.0	1.6		
Total, Group II . . .	4,688	4,059	29.2	25.5	25.5		852	1,644		5.3	5,540	5,703	17.3	17.8		
Group III: Building and Civil Engineering . . .	1,294	600	8.1	8.1	3.8		16	23		0.1	1,310	623	4.1	2.0		
Textiles . . .	401	221	2.5	2.5	1.4		601	405		3.8	1,002	626	3.1	2.0		
Clothing . . .	138	65	0.9	0.9	0.4		449	284		2.8	587	349	1.8	1.1		
Boots and Shoes . . .	108	64	0.7	0.7	0.4		57	43		0.4	165	107	0.5	0.3		
Other Manufactures ³ . . .	1,004	542	6.2	6.2	3.4		440	414		2.7	1,444	956	4.5	3.0		
Distributive Trades . . .	1,888	972	11.8	11.8	6.1		999	956		6.2	2,887	1,928	9.0	6.0		
Other Services ⁴ . . .	965	436	6.0	6.0	2.7		917	977		5.7	1,882	1,413	5.9	4.4		
Total, Group III . . .	5,798	2,900	36.2	36.2	18.2		3,479	3,102		21.7	9,277	6,002	29.0	18.8		

Total of Armed Forces, Auxiliary Services, Civil Defence and Industry	13,643	14,896	85.1	93.6	4,837	7,120	30.1	44.4	18,480	22,016	57.7	69.0
Unemployed	1,043	71	6.5	0.4	302	31	1.9	0.2	1,345	102	4.2	0.3
Rest of Population	1,324	943	8.4	6.0	10,901 ⁵	8,869 ⁵	63.0	55.4	12,225	9,812	38.1	30.7
Total	16,010	15,910	100.0	100.0	16,040	16,020	100.0	100.0	32,050	31,930	100.0	100.0

¹ Women working part-time are included throughout, two being counted as one unit. At the middle of 1944 about 900,000 women were doing part-time work.

² Metal manufacture, engineering, motors, aircraft and other vehicles, shipbuilding and ship-repairing, metal goods manufacture, chemicals, explosives, oil, etc., industries.

³ Leather, wood, paper, bricks, tiles, pottery, glass and miscellaneous manufactures.

⁴ Commerce, banking, insurance, finance; professional services; entertainment; hotels, restaurants, etc.; laundries and cleaning.

⁵ Mainly housewives. Domestic servants are also included.

(b) 1918 and 1944. Men aged 14-64 and women 14-59.

	1918				Mid-1944			
	Millions		Per cent		Millions		Per cent	
Forces and Whole-time Civil Defence	5.25		16.5		5.25		16.5	
Munitions Industries	5.06		15.8		5.06		15.8	
Total	10.31		32.3		10.31		32.3	
Group II Industries	5.70		17.8		5.70		17.8	
Group III Industries	6.00		18.8		6.00		18.8	
Rest of Population	9.92		31.1		9.92		31.1	
Total	31.93		100.0		31.93		100.0	

Source: Cmd. 6564.

33 per cent. Civilian sales of clothing and miscellaneous goods were practically halved, and footwear sales fell to 73 per cent of the 1938 figure; only in the case of fuel and light was the pre-war volume of sales practically maintained.¹ New production for civilian use of many articles—motor-cars, refrigerators, pianos, vacuum cleaners, lawn-mowers, aluminium hollow-ware, cutlery, bicycles, wireless sets, watches, fountain-pens, furniture, carpets, and other floor coverings are some examples—was either completely stopped or reduced to an extremely low level.

What these changes meant to individual industries appears in outline from the first part of Table 15. From June 1939 to June 1944 some 4½ million men and women were added to the Forces, 2 millions to the munition industries, and between a quarter and half a million to the Civil Defence services and the essential industries in Group II. Of this total, 3¼ million were found by transference from less essential industries and services, the largest single contributions coming from the distributive trades (almost a million) and building. A million and a quarter unemployed were brought back to work, and the balance was made up with nearly 2½ million people not normally engaged in paid work other than domestic service, including over two million women. In all, the number of workers in the less essential (Group III) industries and services was reduced by 35 per cent between 1939 and 1944, and 20 per cent of the 'rest of the population' were transferred into war work of one kind or another. If each part-time worker were counted separately the latter proportion would be around 23 per cent.

The increase of 63 per cent in the number of workers in the munition industries was accompanied in a number of cases by striking rises in output. While iron and steel output remained at the pre-war level, the output of light metals was multiplied several times. More than three times as much aluminium was produced in 1943 as the annual average between 1935 and 1938, and the output of magnesium was

¹ Volume (*not* value) of sales of certain classes of goods (other than Government purchases) in 1943, per cent of the volume in 1938:

	%
Fuel and light	93
Boots and shoes	73
Clothing and dress materials	55
Miscellaneous goods (including chemists' wares, stationery, books and newspapers, fancy goods, jewellery, etc., travel goods, toys and sports goods, petrol, oil, soap, polishes, candles and matches)	52
Hardware (pottery and glassware, ironmongers' and electrical goods, heating and cooking appliances, prams)	33
Furniture and furnishings (furniture, furnishings, household textiles, floor coverings, wireless sets, gramophones and accessories, other musical instruments)	23
Private cars, bicycles, etc.	11

Source: Cmd. 6564.

multiplied by eleven: in effect, a new magnesium industry came into existence. The rate of output of the aircraft industry was between three and four times as great in the first six months of 1944 as in the last four months of 1939, in terms of the number of aircraft produced, and between six and seven times as great in terms of their structural weight; and this industry had already expanded considerably above its normal size in 1939. In the case of shipbuilding, the output of merchant vessels in the United Kingdom rose from 921,000 gross tons in 1937 to 1,302,000 in 1942 and 1,204,000 in 1943, while the output of warships rose in the same period from 109,000 displacement tons to 423,000 (1942), and finally in 1943 to 498,000; and these increases were realized in spite of heavy demands on equipment and man-power for repair work. At one time the amount of merchant shipping alone in hand for repair exceeded $2\frac{1}{2}$ million tons. There is no question that in these and a number of other cases productive capacity has been increased well beyond the needs of normal pre-war markets, and very probably beyond what will be needed for some time after the end of the first period of reconstruction.

Changes on this scale in employment, output, and markets were naturally accompanied and promoted by extensive changes in organization. Among the innumerable variety of wartime controls—rationing, utility production schemes, and the rest—one which particularly affected the location of industry was the concentration of production in less essential industries. The President of the Board of Trade stated in May 1943 that (leaving out of account the clothing industry, in which concentration was still proceeding) some 5,300 firms had been granted nucleus certificates, 2,800 establishments had been closed, and 235,000 workers and 61,000,000 square feet of factory space had been released. Some further results were expected, particularly in the printing and clothing trades. Concentration was not applied to the distributive trades; but inquiries during the war show that there also a considerable number of establishments were closed. Investigations at Leeds and Glasgow in 1941 showed that approximately 15 to 20 per cent of all shops recorded at the end of 1939 closed during the first two years of war, including a considerably higher proportion, ranging in some special cases up to more than 30 per cent, of the shops selling durable or less essential goods.¹ It would not be justifiable to base an estimate of the proportion of shops closed in the country as a whole on experience in the big towns, where the proportion closed has probably been relatively high; but even in the country as a whole the proportion may well have been of the order of 10 per cent.

These and other changes have in a number of industries been accompanied by a rise in technical efficiency, which cannot be exactly

¹ *Bulletin of the Oxford University Institute of Statistics*, 4.4.42.

estimated, but is known to have been considerable. Its full effects have been masked during the war by a number of offsetting factors arising out of war conditions—raw material difficulties, difficulties in obtaining equipment, or the dilution of labour—and it may well be some years after the end of the war, as it was after the end of the last war, before these difficulties are entirely overcome and the full effects of advances in technique and organization become apparent. The advance has, of course, been particularly important in the trades which have been active during the war; but there is evidence that advances have been made in a number of the trades which have contracted during the war, or at least that the break caused by the war has provided an opportunity for making a new start with more efficient methods, which were available in 1939, but had not then been applied. In hosiery:

'The increase in efficiency is very real, and manufacturers are learning and will remember much by which their productive methods will be improved, their outlook widened, and their policy guided.' (Report of the Post-war Reconstruction Committee of the National Federation of Hosiery Manufacturers' Associations.)

In hosiery, pottery, lace, carpet manufacturing, the light metal and miscellaneous industries of Birmingham, or the clothing and furniture trades of the East End of London, the war has done something to accelerate the elimination of obsolete factories. In some cases air-raid damage has made redevelopment essential; in others the possibility of using disused munition works to re-house groups of small firms at present in congested and unsuitable premises is being actively considered. In most of these industries the possibility of retaining after the war some of the measures of standardization, closer association of firms and general rationalization of industries, and co-operative organization for sales, research, and a variety of other purposes, is being discussed. Whether or not the retention of these wartime developments proves practicable, it is at least agreed that the retention of some part of them would be desirable.

A number of the most important organizational changes brought about by the war have occurred on the side of labour. The large-scale introduction of women workers in almost all trades has been perhaps the outstanding development. The proportion of women to all workers employed in the engineering and allied trades rose between June 1939 and the summer of 1943 from 7 to 35 per cent, and in the chemical and explosive trades from 18½ to 52 per cent;¹ there have been similar changes in other trades, illustrated by Table 15. Two out of the two and a half million full-time workers in war industry not normally engaged in industrial employment are women,

¹ Article in the Russian paper, *British Ally*, already quoted.

and a relatively large part of the recruitment of women for war work has occurred in areas such as South Wales or the North-east Coast, where opportunities of industrial work for women have traditionally been limited; the result has been to break the vicious circle whereby the absence of a female labour force with factory training has made it difficult or impossible to attract the new industries which might have employed the large numbers of women in these areas who would have welcomed industrial work. A further development in labour conditions which may have important effects in a number of areas after the war has been the widespread introduction of holidays with pay, which was beginning just before the war. In 1938 about 4,000,000 workers had a contractual right to holidays with pay; by 1942 the number had risen to 12,000,000, and it has since risen further.¹ Another change of importance has been the introduction of extensive new training facilities, operated both by the Government and by private employers, directed at present to the needs of the munition industries, but capable in many cases of being adapted after the war in order to increase the efficiency and the flexibility of peace-time industry. Simultaneously, there has been at least a temporary relaxation of the demarcation lines and practices which before the war impeded in certain industries both efficiency and mobility between occupations.

THE DISPERSAL OF FACTORIES

Of more direct importance for the problem of the location of industry is the wartime dispersal of factories and offices away from target areas. The most striking fact about the dispersal of factories is its smallness. There are undoubtedly districts, especially some of the ports, where works employing a significant proportion of the local workers have been either destroyed or removed to other areas, and have not been replaced by new development; it is possible to quote one outstanding case where employment at a single works fell from 20,000 before the war to 5,000 in 1941, the remainder of the work having been transferred to establishments in other districts. In general, however, surveys of towns such as London, Southampton, Hull, Sheffield, Leeds, Birmingham, Coventry, or the Clyde conurbation lead to similar conclusions; whichever target area is taken, it is clear that there has been far less evacuation of factories than of workers and their families, and less movement of large factories than of small. The difficulty of moving a large factory is great, precisely because of its size. As several of the Nuffield Survey's investigators have pointed out, a single bomb on or near a working-class house or a small workshop may put it completely out of action, whereas a well-built factory may be nowhere near destroyed by several direct

¹ *The Times*, 15.6.42—letter from Sir Ronald Davison.

hits. This is particularly true of the areas of old, defective housing, mixed up with industry, which have been among the chief target areas; as one London official commented, 'East and North-east London houses do not stand up to bombs as well as factories'. At the other end, it is easy to billet one or two people, and not impossible to dispose even of a large family, while a small works can easily be squeezed into the empty shops and garages of Middlesex, the 'derelict cinemas' of Hertfordshire, the 'disused chapels' of Derbyshire, or the small standardized factories released by concentration or requisitioning in places such as Welwyn or the Treforest trading estate in South Wales—though even in the case of small firms the supply of accommodation in the less vulnerable areas has fallen far short of the demand. A big firm must usually either split up into small units, which is inconvenient, or build a complete new works, though occasionally it may be lucky enough to find an existing building. One large engineering firm transferred its works from a Midland town to an old shell-filling factory of the last war, and is said to be seriously considering remaining on its new site permanently; but cases of this sort are rare. What happens more commonly in bombed areas may be illustrated from the case of the borough which has already been quoted as an example of exceptionally complete evacuation of the civil population. The largest works in this borough employed between six and seven thousand before the heavy raids, and after the raids and evacuation employment fell to about 3,000. Within three months, though less than half of the borough's resident population had returned, employment at this works was back to normal.

NEW INDUSTRIAL BUILDING

Where dispersal of big works has occurred it has been facilitated by new building, which has also occurred as a result of the evacuation of smaller works and in connexion with a number of entirely new establishments. The information available about new building is not sufficient to make it possible to distinguish between the two sorts of development, though an estimate can be made of the total amount of new industrial building which has taken place.

A general impression of the scale of the largest single category of new industrial development, Government and Government-assisted building, has been given by the Select Committee on National Expenditure.¹ Down to the end of 1942² some £161½ millions had been spent by the State on Royal Ordnance Factories; £220 millions on agency and shadow factories of which the ownership remained

¹ Seventy-seventh Report, 4.11.43.

² The figures for one Department are for the period to 30th June 1942. In two cases expenditure before the beginning of the war is included (R.O.F.'s and agency and shadow factories); otherwise the figures refer to the period after the outbreak of war.

with the Ministries of Supply and Aircraft Production, though they were operated by private firms; £282 millions on works and plant which would revert to the State after the war; and £11½ millions on works and plant of which the ownership remained with private firms. The total of these items of expenditure was £675 millions, of which £663½ millions represented expenditure on plant owned by or intended to revert to the State.

More detailed figures are also available. In the spring of 1940 it was stated that the Ministry of Supply intended to raise the total number of Royal Ordnance Factories from 9 at the outbreak of war and 16 in April 1940 to 53. In August 1942 the Minister of Supply announced that there were 42 Royal Ordnance Factories actually in operation, employing altogether about 300,000 workers, of whom about 180,000 were women, 97,500 unskilled or semi-skilled men, and 7,500 skilled men. Of these works, 24 were engaged on engineering, making principally guns; about two-thirds of the output of guns in the country as a whole came from these works, in addition to a considerable output of gun carriages, small arms, and ammunition components. Of the other eighteen factories, eight were manufacturing explosives and ten were engaged in filling shells or small arms ammunition. The filling and explosive factories were exceptionally large:

‘Individual factories have been recruiting five, six, or seven thousand people, and the total personnel of most of these factories ranges from 10,000 to 25,000 persons.’ (Hansard, H.C., 382.1072: 5.8.42.)

As the Ministry of Labour’s representatives emphasized to the Barlow Commission, it was the accepted policy of the Government before the war to place new armament works in areas of heavy unemployment whenever military and technical considerations permitted. In the case of the Royal Ordnance Factories strategic considerations strongly reinforced this policy, particularly after the fall of France, and in a number of cases the possibility of transferring labour from the industries which have contracted in wartime worked in the same direction; this was particularly important in the case of Lancashire. As a result, most of the largest establishments lie to the North and West of a line from the Severn to the Wash, and the greater part of the employment provided has been given in areas which before the war were relatively depressed. For technical and military reasons several of the largest new Ordnance Factories have been built some distance from existing large centres of population, and constitute in effect new industrial areas; one outstanding example is a factory which draws in its labour from all over South Wales. As a result of military developments and of the completion of production

TABLE 16

DEVELOPMENT PROJECTS IN GREAT BRITAIN, SEPTEMBER 1939 TO JUNE 1941

(1) INDUSTRIAL BUILDINGS ANNOUNCED AS CONTEMPLATED, SEPTEMBER 1939-JUNE 1941: GREAT BRITAIN

Type of Building	Date of Announcement							Total Sept. 1939- June 1941
	Sept. 1939 (1 month)	Oct.-Dec. 1939	Jan.-Mar. 1940	Apr.-June 1940	July-Sept. 1940	Oct.-Dec. 1940	Jan.-Mar. 1941	Apr.-June 1941
Factory	50	83	53	41	18	23	14	10
Extension	52	138	114	130	160	105	105	59
Reconstruction	—	11	7	5	12	8	11	9
Total of Projects	102	232	174	176	190	136	130	78
								1,218

(2) A COMPARISON WITH THE REGIONAL DEVELOPMENT REPORTED IN THE BOARD OF TRADE 'SURVEY'

Period	Percentage of Total Reported Projects in Regions								Reported by
	I	II	III	IV	V	VI	VII	VIII	Total
Year 1937	4.1	36.5	2.1	13.0	2.3	22.4	11.4	3.2	100.0
Year 1938	3.4	37.9	4.5	17.4	1.4	18.1	13.1	4.3	100.1
6 years—1933-8	4.1	39.8	1.6	16.3	3.3	20.9	10.1	4.0	100.1
Sept. 1939-June 1941.	2.6	16.6	0.7	22.1	1.5	26.6	20.3	9.7	100.1

Regions: I. South and South-west; II. Greater London; III. Wales (including Monmouthshire); IV. Midlands; V. Eastern Counties, VI. North-west; VII. North-east; VIII. Scotland.

Board of Trade Survey of
Industrial Development

Times Trade and Engineering
Supplement

(3) A COMPARISON WITH THE INDUSTRIAL DEVELOPMENT REPORTED IN THE BOARD OF TRADE SURVEY

Period	Percentage of Total Works in Industry No.													Reported by
	1	2	3	4	5	6	7	8	9	10	11	12	13	Total
1937	2.2	3.2	2.6	9.6	18.6	7.8	1.7	11.2	1.7	17.4	5.9	6.8	6.7	100.0
1938	2.1	3.4	5.0	10.0	15.4	9.7	1.6	6.8	2.3	16.6	7.0	8.4	5.9	99.9
6 years—1933-8	2.3	3.9	3.1	7.8	13.3	6.3	2.0	11.6	1.7	20.5	6.7	8.4	6.3	99.9
Sept. 1939-Dec. 1940	1.3	2.1	4.8	18.3	27.7	4.3	4.0	7.0	0.9	4.8	10.8	1.6	4.4	100.2
Jan.-June 1941	2.7	3.3	9.8	7.1	19.7	2.7	6.0	11.5	3.3	8.7	8.2	1.6	1.1	99.9

Industries: 1. Non-ferrous Metals; 2. Bricks, Pottery, Glass; 3. Chemicals; 4. Iron and Steel; 5. Engineering; 6. Vehicles; 7. Non-ferrous Metals; 8. Textiles; 9. Leather; 10. Clothing (including Boot and Shoe); 11. Food, Drink, Tobacco; 12. Timber; 13. Paper, Printing, Stationery; 14. Miscellaneous.

(4) INDUSTRIAL BUILDING PROJECTS GROUPED BY INDUSTRY AND REGION, SEPTEMBER 1939-DECEMBER 1940

Industry	Region ¹								Total Great Britain
	I	II	III	IV	V	VI	VII	VIII	
1. Non-metalliferous Mining Products	—	4	—	—	—	1	4	1	10
2. Bricks, Pottery, Glass	—	—	—	6	—	3	5	2	16
3. Chemicals	—	7	—	2	—	20	7	1	37
4. Iron and Steel	1	6	2	32	2	18	69	11	141
5. Engineering	4	45	1	50	1	51	41	21	214
6. Vehicles	2	8	1	14	—	5	1	2	33
7. Non-ferrous Metals	1	6	1	11	—	7	4	1	31
8. Textiles	1	3	—	12	3	26	7	2	54
9. Leather	—	—	—	2	2	1	1	1	7
10. Clothing (including Boot and Shoe)	2	4	—	15	2	10	3	1	37
11. Food, Drink, and Tobacco	6	10	1	10	5	27	16	8	83
12. Timber	1	4	—	—	—	4	3	—	12
13. Paper, Printing, and Stationery	1	9	—	4	2	9	5	4	34
14. Miscellaneous	1	23	1	11	—	14	11	2	63
15. Unidentified Products	9	54	2	61	1	58	31	22	238
Total—all Industries	29	183	9	230	18	254	208	79	1,010

¹ The numbering of the regions is identical with that of Table (2).

Tables (1), (2), and (3) are based on tables compiled by J. F. Golay, *Bulletin of the Oxford University Institute of Statistics*, 11.10.41. Table (4) is taken from an article by P. W. S. Andrews, *Oxford Economic Papers*, No. 5.

programmes employment at some of the Royal Ordnance Factories was considerably reduced during 1943 and the last months of 1942.

In addition to the Royal Ordnance Factories, the Government has built a variety of military and R.A.F. establishments, ordnance depots, and stores belonging to the Ministry of Food and other Departments, together with a considerable amount of housing and other accommodation, and an important part of this type of building may prove to have some economic value after the war. Some of it is in any case intended to be permanent, and to remain in use by the Government; publicity was given in 1943 to the creation of a complete new town in the West Midlands, with a population of several thousands, to serve a new permanent Ordnance Depot. In other cases the possibility of some industrial use is being considered—further reference is made to this in later chapters—along with the possibility of using new aerodromes as bases for internal or international services, and the possibility of using camp and hostel accommodation for schools, holiday camps, and similar purposes. The Government's hostel programme down to the middle of 1942 was intended to provide 41,200 beds.¹ Sir Ronald Davison has estimated that, including military establishments, permanent or semi-permanent accommodation for between two and three million people has been provided in Government hostels, camps, and other establishments during the war, and that it should be possible to select from this amount accommodation for at least a quarter of a million people which would be suitable for holiday purposes after the war.²

In addition to the building of works and other establishments for the direct use of Government departments there has been a large amount of new building of agency factories to be managed by private firms on behalf of the Government, and of works built for ownership by the private firms themselves. No official figures showing the amount of new building of this kind which has taken place since 1939 have been issued; but it is possible to obtain a reasonably accurate idea of the course of development from a series of estimates originally made by Mr. P. W. S. Andrews and later continued by Mr. J. F. Golay, based on statements of intention to build new industrial premises, reported in *The Times Trade and Engineering Supplement*. Provided that it is borne in mind that these estimates refer to projects, not to completed buildings, and subject to other cautions given in a note at the end of this chapter, these wartime statistics can be used as a basis for a broad comparison with the pre-war statistics of works actually opened, given in the Board of Trade's *Annual Survey of Industrial Development*.

Over the whole period from September 1939 to June 1941 the

¹ Fifty-first Report of the Select Committee on National Expenditure.

² Letter to *The Times*, 15.6.42.

average number of projects brought forward each month was almost exactly equal to the average number of factories and extensions whose completion was reported by the Board of Trade's *Annual Survey* between 1933 and 1938—approximately 55. It is highly likely, considering the character of wartime building, that the average size of the buildings projected between 1939 and 1941 was larger than in the case of buildings finished in the last years before the war; so that, when account is taken of the building of Royal Ordnance Factories and other Government establishments which are not covered by *The Times Trade and Engineering Supplement's* reports,¹ the average rate of industrial building between the end of 1939 and (say) the middle of 1942 must have been considerably higher than the average between 1933 and 1938. In all probability it was considerably above the level even of the earlier months of 1937, a peak year in which the number of new factories and extensions opened was about $17\frac{1}{2}$ per cent above the average of 1933-8. The employment provided in the new wartime factories cannot be estimated with any accuracy. On Mr. Andrews's estimate, the employment provided in the new works covered by his statistics and projected between 1939 and 1941 may have been somewhere between 150,000 and 350,000, with a bias towards the higher figure. Adding in most of the 300,000 workers employed in 1942 at Royal Ordnance Factories, together with an allowance for workers in certain other Government establishments, it seems that the capacity for employment of new industrial establishments planned and completed between the outbreak of war and about the middle of 1942 was of the order of half a million, with a wide margin of error in either direction. In estimating total new employment provided during the war an allowance should also be made for works planned and begun before the war, and completed after September 1939. With this allowance, it is probably reasonably safe to say that new employment was provided in works and miscellaneous establishments of an industrial character completed between September 1939 and a date in 1942 for somewhere between half and three-quarters of a million workers, or from $3\frac{1}{2}$ per cent to $4\frac{3}{4}$ per cent of the total number of insured workers in Great Britain in July 1939, and from 7 per cent to $10\frac{1}{2}$ per cent of the number of insured workers in manufacturing trades. This represents considerably more than double—possibly as much as three times—the volume of new employment which might have been expected to appear in new factories in a period of average prosperity of similar length in peace. The proportionate addition to the capacity of the munition industries, particularly engineering, aircraft, and (if

¹ It is possible that a few of these establishments are included in the reports, and this should be borne in mind in what follows. But in general establishments of these types are excluded.

the Royal Ordnance Factories are included) chemicals, has of course been even greater.

The rate of industrial building over the period from 1939 to 1942 as a whole is undoubtedly interesting; but, as Table 16 shows, it would be misleading to consider only the average rate of development. The number of new factory projects remained at a relatively high level from September 1939 to June 1940, and then fell away steadily, except for a slight check in the last quarter of 1940, until by the middle of 1941 it had reached an exceedingly low level. Projects for extensions came forward in large numbers throughout the period from 1939 to June 1941; but their number reached a peak in the middle of 1940, and had fallen away considerably by the second quarter of 1941. The rate at which industrial building projects of all kinds were coming forward fell by nearly 60 per cent between the September quarter of 1940 and the last quarter for which statistics are available. It is known independently that the peak of the wartime industrial building programme was in fact past by the end of 1941, and it is possible that even the relatively low rate of development suggested by the statistics of projects in 1941 may not have been maintained. The rate at which projects were coming forward in the second quarter of 1941, or even in the first two quarters together, was well below the average of the years from 1933 to 1938. Allowing for this, for the difficulty of adapting many wartime buildings for peace-time use, and for the need to offset against new building a certain amount of war damage which has not been made good, it is not impossible that if the war is prolonged the net annual addition over the whole period of the war to the supply of buildings of lasting industrial or other commercial value may prove to have been no greater than might have been expected in a similar number of years of peace; it may even prove to have been much less.

The industrial (as distinct from geographical) distribution of new plants built during the war has been very much what might be expected. As compared with the six years from 1933 to 1938 the proportion of all new industrial building in 1940-42 (except those types of building on Government account which are excluded from the general statistics) intended for the engineering trades practically doubled, and the proportion intended for the non-ferrous metal trades more than doubled, while there were big increases in the chemical, iron and steel, and food groups. There were considerable falls in the clothing, paper and printing, wood-working, miscellaneous mining products, and brick, pottery and glass groups, and also, more surprisingly, in the vehicle group; there were smaller falls in the textile and leather groups. The apparent increase in the proportion of building going to the engineering and chemical trades would of course have been greater if the Government engineering,

explosives, and filling plants were included in the statistics; though, since the actual number of these establishments is not great, they would have made less difference to the statistics than would have been justified by their size. The apparently low proportion of war-time building which has been intended for the vehicle group, including aircraft, is probably accounted for partly by the relatively large size of many of the new works in this group and partly by the recording of some factories making vehicles and aircraft as engineering works.

The geographical distribution of new construction, as shown by *The Times Trade and Engineering Supplement* reports, is also very much what might have been expected. As compared with the years between 1933 and 1938, the proportion of new industrial building going to Greater London fell heavily during the war, though the respectable total of 17 per cent of all new projects brought forward between 1939 and 1941 was still to be located there. This is only slightly less than Greater London's normal proportion of the whole population of Great Britain; in 1938 this proportion was just below 19 per cent. The proportions intended for the South, South-west, and East were practically halved, the figures concealing a tendency for new development to cease almost entirely in some areas, and to proceed more rapidly than before the war in others. The proportions going to the Midlands and North-west rose considerably, while the proportion intended for the North-east doubled, and the Scottish proportion more than doubled. The apparently low figure for Wales probably represents development of the type which enters into these statistics accurately enough; but it is misleading in a general sense, since an exceptionally high proportion of the new projects completed in Wales since the outbreak of war have been of types with which these statistics are not concerned, including both Royal Ordnance Factories and works which do not enter into the wartime statistics because they were started before the war, but which were completed after the war began, and therefore do not appear in the figures for pre-war development. There has been a tendency for each region to receive developments of a kind similar to its existing industries; thus the North-west in 1940 had more than its share of new projects in the chemical, textile, clothing, food, drink, and tobacco, and paper groups, and also had a substantial number of engineering projects, while the projects intended for the North-east came chiefly from the engineering and iron and steel groups, and London provided nearly 40 per cent of the projects classified as 'miscellaneous'. The reasons for development on these lines are evident enough. There are obvious advantages in placing new plants in areas where the industry to which they belong is already localized, and where suitable labour, ancillary firms, and facilities of one kind or another are readily available; and, as the Ministry of Labour told the Barlow Commission,

it is desirable for administrative reasons to place Government agency factories as near to the headquarters of the firm which is operating them as possible. In spite of this general tendency war-time development has helped considerably towards diversifying the economy of a number of areas. It is impossible to avoid some regret that it has not proved practicable to do more in this direction; but, in view of the clear advantages of building new plants where plants of the same character already exist, it would be unreasonable to complain of the policy actually adopted.

It goes without saying that very little of the new development undertaken during the war has been in or near the centres of target areas. There are a few exceptions, particularly where bombed buildings have had to be replaced. A report from one city mentions that:

‘A number of centrally built factories destroyed by enemy action have been rebuilt on the old sites notwithstanding the vulnerability of the area.’

The report goes on to add, rather surprisingly, that ‘This has been done to facilitate the transition to peace-time production’. But most new development has been peripheral, and a great deal has gone to the same sort of districts as would have been chosen before the war. From July 1935 to July 1938, according to the Ministry of Labour’s figures, the insured population of the country as a whole increased 8 per cent.¹ The increase in the central exchange area of Birmingham was 5 per cent; increases in the outer exchange areas of Birmingham varied between 10 per cent and 33½ per cent. The *County of London Plan* quotes figures of factories opened and closed illustrating the similar tendency for employment to increase more rapidly than in the country as a whole round the fringe of outer London and to remain stable or fall in the centre; and the same tendency operated throughout the country. The tendency in wartime has been similar. There has been a good deal of new building scattered through small towns and villages—much more, in all probability, than could have been expected if war had not broken out. There are cases, such as the Royal Ordnance Factories just quoted, of works which have been placed well away from existing centres of population, and there is the limited number of cases of works which have been built or rebuilt in the centres of heavily built-up areas. In general, however, it seems that the bulk of new development has gone to the less crowded parts of existing industrial areas; to the outer edges of towns such as Birmingham or Coventry, or to Outer London, or to districts such as the Black Country or the less vulnerable parts of the area round Glasgow.

¹ Population aged 16-64. The increase includes an addition due to changes in the scope of insurance.

THE DISPERSAL OF OFFICES

In addition to the developments affecting industrial workers there has been a considerable movement of offices and of office workers out of the larger cities. A fair amount of such movement has occurred from cities such as Hull, Sheffield, or Portsmouth; but far and away the most important movement occurred in the case of London. Sections of most of the main Government departments, together with large numbers of railway staffs, of the staffs of the Bank of England and other banks, and of the staffs of a large variety of financial, commercial, and industrial concerns have been moved either to Outer London or to the provinces; the total number of workers affected runs into tens of thousands. There appears to have been a tendency for firms with small staffs which could not conveniently be divided, or for those which needed to keep in particularly close touch with market conditions in London, to prefer a move to Outer London, preferably within the Metropolitan telephone area; good telephone facilities have been a vital factor. A large number of firms of this kind moved their staffs to big vacant houses in middle-class suburbs such as Harrow or Bromley. A number of the largest establishments moved, including those of the Government departments, have been of a kind which could easily be divided up; in these cases movements have often been much greater. Large establishments of this kind have in many cases gone to areas in counties such as Oxfordshire, Berkshire, Hertfordshire, or Surrey, where they have been within reasonably easy reach of London; but in a number of cases they have gone much farther afield, to areas such as the North Wales or Lancashire coast. Manufacturing firms have tended in many cases to evacuate part or all of their London offices to their factories in the provinces.

TRAVELLING TO WORK

The dispersal of factories and offices and the building of new works, together with the movement of population, has created a problem of travelling which has had considerable importance during the war and may have even greater importance afterwards. In some cases the problem has been due to the fact that industry has been dispersed as a result of air-raids, while workers have remained in their old homes; this happened, for instance, in the case of a number of small firms which moved into one Surrey borough from Central London. Much more often increased travelling has been due to the fact that the population has moved out of target areas while industry has not, with the result of creating a separation between home and places of work in the case (very often) of precisely those people for whom the separation before the war was least. In Birmingham before

the war¹ 75 per cent of the wage-earners living in the seven central wards travelled less than two miles to work, whereas only 32½ per cent of householders on the outlying municipal estates had less than two miles to go, and 27 per cent had over four miles. As a result of the war several thousand families have been transferred from the centre to the municipal estates, and the travelling problem has increased accordingly—to say nothing, of course, of people who have moved outside Birmingham altogether. In London the position is the same. As one investigator in the East End found, numbers of people had moved out to Dagenham, or beyond, and were coming back to their work every day; and these people would be from the districts where ‘the younger workers expect to return home to their dinners’, and a journey of a mile to work used to be regarded as excessive. The London middle class has of course moved much farther, and the traffic between London and towns thirty or forty miles out has increased in consequence. In a limited number of cases, it seems that the evacuation of London offices to dormitory districts or to districts outside the ring of London dormitories has actually reduced the volume of travel, or at least has given it a better balance; it is possible to quote the case of one dormitory town where the heaviest flow of traffic in the evenings is now back into London instead of outwards from the centre. Cases where effects of this sort have occurred have been important; but they appear to have been much less important than the cases where travelling has increased.

Quite apart from air-raids and evacuation, travelling to work seems in many cases to have increased as a result merely of the expansion of munition works on their own sites, making it necessary to draw on new sources of labour, or of new building not necessarily connected with evacuation or dispersal. Here again, it is possible to quote cases where travelling has actually been reduced by an increase of employment in former dormitory areas or depressed industrial districts from which workers travelled to other areas before the war. Workers in some of the older trades of the Swansea region, who used to travel from Swansea to Aberavon, Port Talbot, or Neath, have found work in their own district, and the same has happened in North-east Kent and, on a greater scale, in parts of the Black Country. On the whole, reductions of this kind seem to have been greatly outweighed by the increase in travelling which has occurred in other areas, or even among different classes of workers in the same areas. One of the areas just mentioned is an example; the decline in travelling among workers in some of the older trades has been far more than offset by the increase among workers in new munition industries

¹ Bournville Village Trust, *When We Build Again* 1941. Householders who said that the distance which they travelled to work varied are excluded from the calculation.

in the surrounding district, and as a result of this and other changes the direction of the heaviest flow of passenger traffic on the railways of the district was reversed between 1939 and 1942.

Many of the most conspicuous cases of increased travelling have arisen in connexion with the very large Royal Ordnance Factories and other establishments which have been built away from existing centres of population. It was never expected that all, or anywhere near all, of the workers at these factories could be housed within easy distance of their work, and in practice even fewer have been housed near their work than was expected. The Select Committee on National Expenditure¹ found in the middle of 1942 that the Government's original plan to provide accommodation for 70,000 in Royal Ordnance Factory hostels had been amended to 41,200, and that even the smaller number of beds could not be filled; workers preferred to live in neighbouring towns and travel out, taking advantage of the special cheap train and bus fares made available during the war.

Another important cause of increased travelling has been the tendency for new munition works to be built on what would have been regarded before the war as normal sites for industrial development, but without the supply of housing which sooner or later accompanied pre-war industrial building. As the Ministry of Health told the Barlow Commission, local authorities between the two wars paid astonishingly little attention to the correlation of housing and places of work; but private enterprise generally filled the gap, though it might be with some delay. A good example of what commonly happened before the war is the area round Hayes, Ealing, and Southall, where industry developed rapidly after the last war, drawing in workers from other areas, and estates gradually grew up to accommodate workers on the spot, until eventually the area was practically self-contained so far as its labour supply was concerned. This process has not taken place during the war, on account of the stoppage of building. Examples can be quoted to show how a surprisingly high degree of correlation has been achieved between the location of new war plants in some towns and the source of their labour supply; one instance is a big shadow factory built shortly before the war at Birmingham, whose workers travel a decidedly smaller average distance to work than employees at the older Austin works, and show a similar pattern of dispersal, with the great majority of workers coming from the districts nearest to the works. The responsible authorities have done their best to encourage the elimination of cross-transport, often (Leicester is a good example) with a great deal of success. In spite of the success achieved in some cases, there is no doubt that in areas such as the Midlands or the

¹ Fifty-first Report.

Clyde new industrial building has resulted in a great deal of cross-transport and movement over relatively long distances.

PROBABLE DEGREE OF PERMANENCE OF WARTIME DEVELOPMENTS

MIGRATION

It is possible to predict with some confidence, even if not in any detail, the extent to which some of the developments which have taken place during the war will survive. The cases to be considered are of course extremely varied. The considerations affecting the return, or failure to return, of children who have been evacuated unaccompanied by their parents are obviously different from those which arise, say, in the case of a munition worker who has been directed to work in a new area. The cases of a woman evacuated to the country with her children while her husband continues to work in a vulnerable area, of a man who has found work in a new district but has had to leave his family behind, of a family which has moved as a whole, or of a soldier's wife who has let her house or given it up entirely, and has gone to live with her parents or to work in a new area, are clearly of very different kinds. In spite of this variety of conditions there appears to be remarkable unanimity over future intentions. Wartime changes in the distribution of the population seem likely in the great majority of cases to be reversed as soon as possible after the war, unless vigorous and effective measures are adopted to render them permanent; and effective measures would be exceedingly difficult to apply.

There is naturally no question of what will happen in the case of nearly all the children who have been evacuated without their parents, and who are still below school-leaving age. Reports from all areas agree that other working-class evacuees, or workers who have transferred to work in another area, are anxious with very few exceptions to return to their original homes as quickly as possible. One factor is local loyalty in one or other of its many forms. Local loyalty may mean a definite civic pride, an attachment to a particular district with a character or tradition of its own; the strength of local attachments of this kind is particularly noticeable in reports from some of the heavily damaged and largely evacuated areas of East London, boroughs such as Poplar, Bermondsey, Stepney, or Bethnal Green. It may mean family connexions, a factor stressed particularly in reports from parts of Merseyside in which air-raid damage and movement of population during the war has been greatest; or, again, it may mean simply the attachment of an evacuee in a small town or country district to what one investigator calls the 'impersonal community life' of large towns in general. Whatever local loyalty

may mean in any particular case, there is no doubt that it exists, and that it is a very strong influence drawing back those who have moved during the war—often or even usually, as has been emphasized, under some form of compulsion—to their old districts.

A second important factor is the availability of housing. There must, of course, be serious difficulty for any family which tries to find a house in the severely damaged areas in which a large part of wartime population movements have originated. At the same time, there appear to be very few of these areas in which it would not be possible, with careful planning, some temporary building, and considerable temporary inconvenience, to squeeze in something like the pre-war population after a fashion. It can be shown that in London, even after the heavy raids of the autumn of 1940 and the spring of 1941, it would have been possible to re-house the pre-war population without a greater degree of overcrowding than was normal twenty years earlier. Working-class people who left Central London during the war could be reaccommodated, if not always in their own districts, at least in districts not very far distant and not very different in character. There would be no need to put Poplar people in Hampstead. Similar evidence can be shown from other bombed towns, including Southampton and possibly even Coventry. Great as the discomfort of squeezing back into the bombed areas may be, it would probably not be greater than the discomfort under which most of the families or individuals who have left them have been living during the war. The number of working-class families which have moved as complete units during the war, and which have found good accommodation which they will be able to keep afterwards, is not large relatively to the total movement of working-class civilians. Of the rest, some have had to give up family life altogether, living as lodgers or as inmates of hostels. Where whole families have moved as units and have succeeded in keeping together—or at any rate in keeping largely together—they have tended either to live in houses or flats which will have to be given up after the war, or else to find themselves in the difficulty summarized by one investigator as 'the impossibility of two women cooking simultaneously on the same fire without quarrelling'. The poor amenities of many of the areas to which workers or evacuees have been moved has also to be considered. As a report from South Wales notes:

'Widespread dissatisfaction with the social amenities in the neighbourhood is expressed by key workers imported into Merthyr, Dowlais, Pontypridd, and elsewhere for the duration of the war, and a vast improvement in social conditions throughout the whole of the valley towns that are affected by new industrial development is essential to the retention of these workers.'

It must be remembered in addition that for most families which have no separate house at the moment the prospects of getting one in due course are brightest in their old districts. 'The poor man clings to his house, will leave furniture in it to stake his claim, or will keep his name on a list of prospective tenants'—very many emigrants have kept either an immediate claim to a house or flat or at least a prior claim to one as soon as building starts or a vacancy occurs. A family may be well up on the list of applicants for Council houses in its home district; in a new district it must start at the bottom. In some cases the effort to retain a claim has been carried to the length of continuing to pay rent for uninhabitable property.

While the factors of housing and local loyalty frequently support one another directly, as often as not they operate so as to supplement each other's deficiencies. Local loyalty tends to be strong in old slum districts, where housing conditions are bad and air-raid damage has often been severe, but communities are well established. In suburban districts, where community feeling is generally weaker, air-raid damage has usually been far less and the standard of housing is higher. The evidence suggests that the two factors in combination are likely to operate with roughly equal strength in both types of area alike.

The decisive factor for most families must undoubtedly be the wage-earner's place of work. There is sufficient evidence to show that workers have tolerated the wartime increase in travelling to work primarily because of wartime incentives which will disappear in the first years of peace, and that travelling in many of the cases which have already been mentioned has been carried far beyond the limits which would normally be tolerated. To quote a report from Southampton, 'High earnings, and the willingness of workers to pay fares, have removed the economic obstacles to mobility'. The willingness of workers to pay fares has been conditional both on a high level of earnings and on the existence of the special cheap fares provided in some districts for war workers who have had to travel unusually long distances; neither of these factors will necessarily survive the war. It might have been added that under the psychological conditions of wartime people are willing to put up with much more discomfort and loss of time than they could be expected to stand in peace. For evacuees from target areas there is also the question of safety. There is clear evidence that even the phenomenal capacity for travel of miners and London office workers is reaching its limit; for workers in other districts and in occupations where normal mobility is lower the limit both of cost and of inconvenience is in many cases already long past. As has already been shown, the shift of existing industry during the war has been smaller than the shift of population, while new industrial building has gone very

largely to the less developed parts of existing industrial areas. Together with the strong general dislike of the wartime increase in travelling, and with the conclusions about the future location of industry which are reached below, these facts suggest that the tendency after the war will be for people to be drawn back to their old districts by the prospects of work, with an undercurrent setting outwards from the centres of the chief industrial areas towards the districts in which new development has taken place. It appears that in addition to these tendencies there is likely to be a further tendency for numbers of workers, and presumably of their families, to remain after the war in areas where employment has increased during the war and where pre-war experience suggests that prospects are likely to be good. A report by *Mass Observation* in the summer of 1941 noted that:

'Reading of many hundreds of detailed answers to various questions about post-war anticipations over the past months leaves the definite impression that most people who think about the end of this war at all visualize it in terms of 1918',

and that

'people think of the post-war world in terms of 1939, and expect a return to conditions very similar to those prevailing then.'

It is clear from reports on a number of different areas that anticipations based on pre-war experience of employment are likely to have a considerable effect on workers' movements. A report from the West Midlands comments on the difference between workers from London, nearly all of whom want to go back to their own districts, and men from South Wales, who are far less certain; while reports from areas such as Hertfordshire suggest that considerable numbers of immigrants both from London and from other areas may wish to remain after the war. As has been shown, the formerly prosperous areas to the North and West of London and in the Midlands have increased their share of the population of Great Britain during the war; these areas have experienced considerable immigration of all kinds, and it is possible that the number of migrants who may prefer to remain in these areas after the war may be great enough to make an important difference to the problem of full employment and the location of industry in towns such as Oxford or Birmingham.

All this, of course, is on the assumption that no definite policy designed to retain working-class families or individuals in the areas to which they have moved during the war will be adopted afterwards. There is clear evidence that a policy based on the provision of work in appropriate areas and on the grant of priority for house-building and the provision of communal amenities might be exceedingly

successful, and possible opportunities for carrying out a policy of this kind are discussed in later chapters. There will also, of course, be exceptions to the general rule. There are many suggestions that the dispersal of young people, who are often less affected by local loyalties or by housing difficulties, may prove to have more permanent results than the scattering of older workers and their families; this is particularly true where dispersal has been into rural areas, and where boys have taken up agricultural work. Even in the case of the older people there will always be individual exceptions to the general tendency for those who have moved to go back to their old districts.

The evidence about middle-class migrants suggests that they have moved during the war farther and more willingly than working-class migrants, and that in many cases they have been able to obtain at least passable housing in their new districts. It is evident that in many cases middle-class families which have moved out from central London to the suburbs, or from other towns into country districts, would prefer to remain where they are if suitable permanent housing can be found. At the same time, factors such as travelling to work or the lack of general amenities affect middle-class as well as working-class families, and war damage in the areas from which middle-class people have moved has in most cases been relatively slight. It is clear from inquiries carried out both by Nuffield College and by the National Council of Social Service that the great majority of middle-class workers who have been evacuated with Government departments and commercial offices, and particularly of those who have moved farthest from their original homes, would prefer to return to the places from which they came unless a strong positive policy is adopted to induce them to remain in the districts to which they have gone. Whether the same is true of middle-class pensioners and other families which are not dependent on work at a particular place is less certain.

INDUSTRIAL ORGANIZATION

It is less easy to arrive at any general conclusions about the future of the industrial and commercial changes which have been caused or hastened by the war. Whatever may be the Government's policy over the wartime controls, it is clear that certain particularly restrictive controls will no longer be necessary after the first period of reconstruction, and that concentration in particular is likely to come to an unregretted end. An inquiry specially carried out on behalf of Nuffield College in most of the main industrial areas of England and Wales during the winter of 1941-2 showed an almost universal desire on the part of firms already affected by concentration to break free from it, and later investigations into the position of trades such as hosiery or pottery have shown that this impression was correct. The

general desire to escape from concentration appears to be tempered by a recognition that in some trades market forces or the pressure of the trade's own organizations may result in some measure of permanence, and that the preservation of some degree of concentration might be valuable as a means both of dealing with short-term difficulties, which are likely to be similar to those arising in wartime, and of improving the efficiency of some of the industries concerned in the long run. The same inquiry showed a general agreement that firms which have changed their type of production during the war will wish to return to their original lines as quickly as possible afterwards; though here again there were exceptions. Firms have discovered, as a result of their wartime experience, new lines more or less allied to their older lines which promise well for the future, and have taken them up permanently either in addition to their older lines or as a substitute. An example of some local importance is the case of locomotive and wagon building firms in West Yorkshire which were depressed before the war, and which during the war have taken up new types of engineering with which they intend to carry on permanently. The discussion of the possibility of retaining permanently some of the wartime measures of standardization and rationalization which is now going on in some of the trades which have contracted during the war has already been mentioned. The outcome of this discussion is still uncertain; it can at least be hoped that some results of permanent value will be achieved.

DISPERSAL OF FACTORIES AND OFFICES

The special inquiry which has just been quoted, together with later evidence, provided some information on the intentions of firms which have had experience of decentralization and dispersal during the war, and on the use which might be made in future of new factories built since 1939. On the whole, it seems probable that in the absence of any official policy to the contrary most private firms which have moved offices out of the big cities would prefer to bring them back, though with certain important exceptions. An inquiry among about fifty banks, insurance companies, commercial and manufacturing firms which have evacuated staff from London showed that the banks were practically unanimous in wishing to bring back the whole of their staffs, except possibly for a few 'non-essential elements' of one bank. It should perhaps be mentioned that the banks which were asked to express an opinion did not include the Bank of England, which had evacuated a very large number of staff to an area well outside Greater London; it is understood that it might be practicable to leave part of this staff permanently in the reception area. Insurance, commercial, and manufacturing firms were less certain. The feeling appeared to be that staffs which must keep in

close touch with a market would have to come back to Central London, but that a substantial number of clerks on routine work or work in which rapid action was not essential might be left in the suburbs or provinces. Several firms pointed out that an office in Outer London might have most of the advantages of the provinces—good living conditions, room to expand, less travelling, and so on—with the additional advantage that, being in the London telephone area, it would have very quick communication with the centre. As one London report suggested:

‘It may well be that a move out of the City within Central London, or even within the Metropolitan telephone area, may be practicable, when a move to Cambridge or Banbury has been found inconvenient and not to be continued.’

Other things being equal, it seems reasonable to suppose that there will not be much reduction in the number of firms wanting offices in Central London after the war, as compared with 1939, but that there will be less demand for offices in the City and its immediate surroundings, and that the demand will often be for smaller offices, since staffs on less urgent work may in some cases be left elsewhere. The evidence collected by Nuffield College goes to suggest that a clear lead from the Government, or from a regional planning organization, backed up with the measures needed to provide firms with satisfactory accommodation in the areas to which their offices have moved, and to meet the objection of the majority of their workers to remaining in reception areas, might decide a large number of firms which at present are wavering to accept permanent decentralization; and it appears that further evidence collected by the National Council of Social Service points to the same conclusion.¹ The Government’s policy with regard to its own offices is still uncertain; several Departments which left London early in the war had returned by the end of 1943.²

Along with offices may be mentioned the question of warehouses. Wholesale distribution is tending to leave London, in the sense that firms in a variety of trades are finding it preferable to close down their warehouses in London, to maintain only a showroom with samples, and to do their storage elsewhere. There are some outstanding examples of this tendency in the textile and clothing trades; but these are by no means the only trades in which it appears. The war has definitely accelerated this process.

The experience of manufacturing firms which have removed their whole plants to a new area or broken up their operations between a

¹ *Dispersal* (National Council of Social Service, 1944).

² Since this was written a beginning of permanent dispersal of Government offices has been made by the decision to locate the headquarters of the new Ministry of National Insurance at Newcastle.

number of units appears to have varied greatly. There is an interesting case of two large aircraft firms from the same district, both of which have operated a number of dispersal units, and of which one intends to re-concentrate its operations at its main plant as quickly as possible after the war, while the other regards its experience of the advantages of operation in small units as little less than a revelation from heaven. It is possible to extract from the confusion a few somewhat uncertain generalizations; but it is clear that too much reliance should not be put on them.

It is necessary in the first place to distinguish between decentralization within an industrial district and dispersal outside it. The evidence from areas such as Greater Birmingham goes to show that, while some firms which have moved (in whole or in part) from the centre of the area to its outskirts will prefer to go back as soon as the war is over, many of the firms which have moved out would be glad to stay where they have gone. They have experienced the advantages of working in an area free from congestion; in a number of cases they have built themselves new works, better suited to their normal operations than their original plants; and, as far as transport and efficiency of working are concerned, they would be perfectly willing to stay where they are. A number of firms in this position in different parts of the country are uncertain about their future labour supply, in view of the difficulty which has been experienced in wartime in obtaining and transporting workers for outlying firms, even when they are inside an industrial area and within relatively easy reach of residential districts; but a reassurance on this point should not be difficult.

The case of firms which have moved over greater distances is different. Probably a considerable majority of the smaller firms which have moved over long distances would prefer to go back to their original sites. Some of them serve a fashion market; they need to be in close touch with the market and to maintain a high standard of service to customers, and in many cases they depend on highly skilled labour which may not be easy to attract away from its original home. Others prefer to be near a plant—or plants—which they supply with components; a glue firm serving the London furniture trade is a good example. Others again are anxious to go back to districts in which the ancillary services on which they depend are available; and there are many, even apart from firms serving a fashion market, which have to take account of the difficulty of obtaining or retaining skilled labour (or labour of any kind) in remote or unsuitable districts to which they have removed. The problem of retaining key men in unsuitable surroundings is one which appears again and again; the case of firms in South Wales has already been quoted. An important factor in deciding the attitude of the smaller firms is that it is particularly these firms which have been fitted into what would normally

be regarded as unsuitable premises in reception areas; many of them will be turned out as soon as possible after the war in order to allow their present premises to return to their normal use.

The relatively small number of larger firms which have moved their works over long distances or have set up large new branches as part of a policy of dispersal seem, on the whole, more likely than the smaller firms to remain in their new areas. They also expect in many cases to meet with difficulties over labour supply, as many of them are doing during the war; but the other troubles which affect small firms affect the larger firms much less. A large works or dispersal unit is relatively self-contained; it can usually stand separation from its original environment or from a market or parent works better than a small unit. As one Midland engineering firm explained, its present large dispersal unit thirty miles from its headquarters is an economic proposition where a smaller unit would be an intolerable nuisance. It is true that small firms can adapt themselves better to unsuitable temporary premises; but the effect of this has been not so much to encourage large firms or dispersal units to go back as to prevent them from moving at all. It has been pointed out that the larger firms have been slow to move the main part of their work, though they may have thrown off small dispersal units; and very much the same reasons which made it difficult for them to move away from their original sites seem likely to make it difficult for them to move back. As one London firm put it:

'It is correct that we have moved part of our manufactures from London to another part of the country. . . . The only expression of opinion that we can give you is that there is not enough difference between the various appropriate centres in the country for this branch of our manufactures to have brought about in peace-time a move away from a works established in the London area, and it is equally probable that when normal conditions return there will not be sufficient reason to cause us to transfer back again.'

Firms in this position, particularly when they are established in new plants specially built for them, are likely to stay where they are—provided, always, that the labour problem can be solved. A London report draws attention to the experience some years after the last war of Crosse and Blackwell, who moved a factory from Bermondsey out of London. 'Within a year' they were driven back, chiefly by labour difficulties; and there is a widespread fear that, in a context of full employment, similar difficulties may affect many firms in future.

There is evidence from a number of districts, including London, Bristol, and Birmingham, that firms which have not actually moved their plants during the war may consider moving them afterwards, either to a less congested part of their present area or to an entirely

new district, particularly if new factories are available on reasonably cheap terms. There are relatively few of these cases, though in several instances they are of some local importance; they are referred to again in later chapters.

NEW INDUSTRIAL BUILDING

What has been said on decentralization partly answers the question of what is likely to happen after the war to the new works which have been built during it. There is definite evidence that some of the firms which now own or operate these works would prefer to keep them on either in addition to older plants or in substitution for them, and in the outskirts of the main industrial areas there seems likely to be a particularly keen demand for new factories of standard types which, where they are not required by the Government or by the firms which are operating them during the war, could be used by firms which would prefer to move or remain out of congested districts. Even in areas such as parts of the Midlands, where new building has been extensive, there seems to be little doubt that any small or moderate-sized new factories which are left vacant after the war will be taken within a year or two—in many cases within a matter of weeks—by firms which are either expanding or transferring from other districts. The position of larger factories is less certain. In most cases the future of these factories depends on Government policy, since they are owned and may be required by the Government. There is some suggestion that the largest of the engineering and aircraft factories may be left vacant, if they are not needed by the Government, unless a definite policy is adopted to fill them; a Birmingham report quotes the parallel of the factories used by Messrs. Dunlop in the last war, which had eventually to be sold to another company at a fraction of their cost. The Government's own explosive and filling factories seem unlikely to serve any useful purpose in peace (except, of course, in so far as they may be maintained for armament production) unless a special policy and strong inducements are used to attract new work to them. In some instances it is unlikely that they could be used under any circumstances; one example is a filling factory whose site was chosen for the excellent wartime reason that it is covered in mist most of the year. In cases of this kind there are strong arguments, as the Scott Committee urged,¹ for pulling down the new factories unless they are needed for further production of munitions. In other cases a big effort of conversion would be needed, since the buildings of the explosive and filling factories are small, in many cases buried or half-buried, and laid out in a way which would not be suitable for normal industrial

¹ Report of the Committee on *Land Utilization in Rural Areas*, paragraph 190 (Cmd. 6378).

production. The cleared and levelled sites of the factories, their transport and other services, and their administrative buildings and maintenance shops might be of permanent value; but most of the existing buildings would have to be removed. The difficulty of obtaining labour is greater in connexion with this type of factory than with any other, on account of the remoteness of many of the filling and explosive factories from large towns.

These difficulties are not insuperable; suggestions have been made for the conversion of certain of these factories into trading estates, forming the basis of new industrial towns, or into single large units manufacturing (say) building materials. If no other use could be found for them they might be used in some cases for storage, as either temporary or permanent depots for goods which during the war have been stored in requisitioned buildings or works released by concentration which will be urgently needed for peace-time work as soon as the war ends. One or another of these suggestions would be applicable to most of the Government's explosive and filling works. In every case, however, the application of suggestions of this kind would involve the adoption by the Government of a positive and active policy of development; in the absence of such a policy it seems highly probable that many or most of these works will fall into the same derelict condition as did many of the filling factories of the last war.

While there appears to be little doubt that, with the exception of a few potential white elephants, most of the new war factories and other industrial buildings will continue in use after the war, it is clearly important to know for particular areas whether the continued use is likely to consist mainly in an addition to the productive capacity of the area concerned or in a substitution for older works. The evidence on this point is not clear; but it does go to suggest (it would not be justifiable to put the point more strongly) that there is more chance in the formerly prosperous areas of the South than in the formerly depressed areas of the North and West that new factories will remain as a net addition to productive capacity. Areas such as Outer London or the counties to the North and West of London have relatively few new works which are unlikely to be adaptable for peace-time use, and reports from these areas suggest that very many of the new factories will be used either by new firms or by firms whose business is expanding. In the Midlands the position is less clear, and in the North the emphasis appears to be more on the substitution of new works for old than on using the new works as a net addition to local industrial capacity. There are exceptions—it is possible to point to districts in the North in which expanding firms are already waiting for works to fall vacant, and where even works of the type of the Royal Ordnance Factories seem likely to have a market. The general impression given by reports from the

North of England and Scotland is better represented by a report from the area round Leeds:

'It is felt that new factories and extensions are likely to be in considerable demand after the war by businesses now domiciled in old-fashioned premises consisting of two or more floors. The new factories are mainly shed type and are easier to organize and supervise. Nevertheless, I think there is bound to be a considerable wastage of factory space, and if the foregoing view is correct this will consist largely of the older buildings. Only in the most favourable circumstances can complete utilization be envisaged, and this would include all-round post-war export activity of a volume for which we hope, but can by no means be sure of seeing.'

THE ATTITUDE OF PLANNING AUTHORITIES

A factor which may have an important influence on the permanence or lack of permanence of dispersal both of factories and of offices, and on the use made after the war of new buildings, is the attitude of local planning authorities. It does not appear that planning authorities are likely to put much difficulty in the way of maintaining production in the larger factories which have been built since the war. A number of these factories have gone to areas where industrial development would not have been allowed before the war, and numerous cases can be quoted in which the planning authorities did their best to prevent development on particular sites even under war conditions. In general, however, once large factories have been erected planning authorities appear in most cases to have been willing to accept them as permanent; partly, no doubt, from a wish to guarantee the highest possible level of employment in their areas after the war, and partly to avoid the waste of pulling good buildings down again. A case from Leicester is worth quoting:

'It must be admitted that some of the present war factories are not ideally located for normal purposes. One large factory, for example, was erected on a site which had been scheduled for the extension of a housing estate. Had the factory been placed a few hundred yards away, the efficiency of the unit would not apparently have been impaired, yet the amenities of the district would have been preserved. There was considerable criticism at the time from the authorities concerned. But the opposition was overruled, and vague statements were made that the buildings were not necessarily to be permanent. They have turned out, however, to be very substantial indeed, and extremely suitable for peace-time engineering or other forms of manufacture. While it may be regretted that more care was not originally taken in determining the position of the factory, it would be extremely wasteful now to pull it down.'

The same report mentions a case where the removal of a wartime factory would probably be justified, and is certainly desired, by the local authority—the case of a shell-filling factory which is unsuitable for peace-time use and encroaches on the green belt which surrounds Leicester.

The attitude of planning authorities seems likely to be more important in the case of smaller new factories and of small firms which have been dispersed into old buildings, and in the case of evacuated offices. It is clear in a number of cases that firms which have set up in residential or agricultural districts, or districts largely dependent on the tourist trade, will not be allowed to remain after the war. A good example from an agricultural district is the case of Herefordshire, where the survey carried out jointly by Nuffield College and the West Midland Group on Post-war Reconstruction and Planning showed convincing reasons for the establishment of new industries after the war. One market town has actually acquired during the war what appears, from full consideration of the facts, to be a particularly suitable new industry; but there is a considerable possibility that the firm concerned may be driven out of the town after the war by the hostility of the local planning authority to new industry of any kind. Similar cases can be quoted from residential and tourist areas such as Devon or districts in the South-east.

These are all relatively small cases, of limited and local importance; a very much more important problem may arise after the war in some of the districts around London to which offices and small works have been removed. Both north and south of the river many authorities have been forced during the war to allow offices and small works to occupy large houses, garages, vacant shops, and other buildings in areas where industrial development or commercial development not directly serving the resident population would not have been permitted before. The areas affected include many middle-class and upper middle-class districts in Kent, Surrey, and Middlesex, and some in Essex, areas of big houses many of which have become vacant as a result of evacuation, and which are particularly suitable for conversion into offices or, as in one instance in Middlesex, into workshops for trades such as tailoring. The usual attitude of the local authorities in these areas is sufficiently well summarized by the comment of an official in Harrow:

‘He defined town-planning as “the least possible upsetting of vested interests”. He pointed out that, while most people had no theoretical objection to being near their work, the important point was that they should live in pleasant surroundings . . . people lived in Harrow for this reason, and it was the Council’s duty to improve residential facilities and shut out industrialization.’

Another official, in Beckenham, put the same point of view more briefly:

‘He pointed out that large capital had been invested for industrial purposes in the older industrialized areas, and suggested that they should “keep industry there”.’

The interest of the authorities of the residential areas chiefly concerned with this problem in obtaining local commercial or industrial employment for their constituents is limited—far more limited, in the authorities’ own opinion and in fact, than the interest of authorities in areas more dependent on industry. As a report on Coulsdon and Purley puts it, ‘This district is not affected by booms and slumps, as a direct result of the type of person living there’. The desirability of having work within easy travelling distance is recognized, and a few authorities (Harrow, as it happens, is one) have done something to provide permanent work for their working-class populations. Where middle-class residential districts are concerned the importance of ‘pleasant surroundings’ is clearly dominant in nearly all cases, and vigorous efforts will be made by the authorities of these districts to remove immigrant industries and offices as soon as possible after the war is over. Existing planning powers appear to be sufficiently strong, on the evidence both of the local authorities themselves and of firms whose position is likely to be affected, to ensure that the attitude of the authorities of some middle-class suburbs will be a serious obstacle to the continuation after the war of the decentralization of London offices and small industries.

LABOUR

Though a high proportion of the changes which have taken place during the war in the supply and industrial distribution of labour seem likely to be reversed as soon as the war is over, it seems probable that enough of them will prove permanent to make a noticeable difference to the relative prosperity of certain areas. It is clear from reports by *Mass Observation*, as well as from reports gathered by Nuffield College, that there is widespread pessimism among munition workers about the future of their present industries. As an investigator on the North-east Coast put it, ‘there is no feeling of settlement in industry’; or, to take an entirely different type of area, in East Anglia the boat-building yards are active: ‘Men are making a great deal of money; but they are putting it away for “the slump after the war”’. Even apart from the large numbers who are more skilled in peaceable trades than in munition work, it is generally expected that the prospects of munition industries after the war will seem black enough to induce most wartime entrants to go back to other industries or to domestic work: ‘Most, if not all, of this large

army are expected to return to other occupations at the end of the war.¹

There is no question, however, that many of those who have entered new occupations during the war will prefer to remain in them; 'there are some,' as a Southampton report says, 'who look on the system (of war-training) as a preparation for a career, or at least as an alternative occupation in the future'. Some will prefer to remain because they have acquired a skill which would enable them to compete with workers who were already in the munition trades before the war. Reports can be quoted from a variety of different areas to show how newcomers to trades such as engineering or the manufacture of instruments, particularly women, have shown a skill in their new trades which has resulted both in a demand from employers to keep their new workers after the war and in willingness on the part of the newcomers themselves to remain in their new industries.

In many cases, of course, changes of this kind represent merely transfers from one industry to another, without any rise in the total number of workers seeking employment. The labour force of one industry may go down, and the labour force of another may go up, and some slight problems of shortage or surplus of labour might be caused; but this side of the problem is relatively unimportant. It is very much more important to take account of the effects, and particularly the local effects, of the permanent increase in the total labour supply of the country as a whole or of particular districts which seems likely to result from the efforts of workers who were not employed in industry before the war to retain industrial employment either in munition trades or in other trades for which their wartime training has fitted them. There are very large numbers of women in mining or agricultural districts or areas of heavy industry who have entered industry during the war and would be glad to continue industrial work afterwards, and who have acquired a skill, or at least a knowledge, of factory methods, which would fully justify retaining them in industry if the type of peace-time industry which would be ready to employ them were available. Whether this type of industry will in fact be available is of course another matter.

INDUSTRIAL DEMOBILIZATION

It goes without saying that there is bound to be a certain amount of dislocation immediately after the war during the period in which the munition trades pass through the first stages of demobilization, and the concentrated trades, with the other trades whose output has been reduced during the war, are in the first stages of recovery. The form and degree of dislocation will naturally vary greatly between

¹ From a report on *Training for War Industry in Scotland*.

different industries—it will obviously take one form in the main munition industries and another in the industries which have contracted—but there is no question that it will be widespread and possibly severe. At the end of the last war it was not until May 1919 that the upward movement of the boom of 1919–20 began, approximately six months after the Armistice. In introducing the Restoration of Pre-war Trade Practices Bill in February 1942 the Minister of Labour mentioned from four to twelve months as the period needed for re-tooling and reconditioning the big munition works, and appeared to regard eighteen months as leaving a comfortable margin. Independent evidence suggests that the period required to re-start other factories on a peace-time basis would be of the same order. The time needed must naturally differ greatly from case to case, according to the complexity of the factory, the difficulty of obtaining and installing new equipment, the delay in working out new production programmes, or the time needed to clear and re-convert factories which have been used for storage or other purposes entirely different from their normal work.

The period needed could be reduced by appropriate measures. In the case of the munition trades and of the industries supplying them with semi-finished products the need in many cases appears to be for a definite guarantee of orders for a specified type of product. Many munition firms have orders for peace-time products on their books which will keep them occupied for months or years after normal production begins again. On the other hand, there are also firms in the same position as one concern engaged in rolling aluminium semi-products, whose manager pointed out that its normal products were practically identical with the products which it was making during the war, so that there was no technical difficulty in going over to normal production; but that he expected several weeks or months of delay until the firms which normally bought his own firm's products had made up their minds about their post-war programmes. He suggested a Government order for a million pots and pans, production to start on the day of the armistice with Germany. Other firms have pointed out that they would have little difficulty in turning over to peace-time production provided that orders were given in advance and production plans made; but that several weeks or months of delay might be caused if plans had to be made after munition production ceased. Other firms, again, appear to be in the position of one concern making sewage disposal plant and related products, which pointed out that its plans for development after the war were being held up by the Government's delay in announcing the lines on which planning and building should proceed, with the result of making it difficult or impossible for the local authorities which were the main customers for this type of product to place firm orders.

Difficulties of these types could be met; and so also could the difficulties of removing Government stores, obtaining new machinery, spare parts, raw materials, and skilled labour which has gone into the Forces, which arise in the case of the industries which have contracted during the war. With the best will in the world, however, there is bound to be some temporary dislocation and unemployment; and, if the war with Japan continues after the defeat of Germany, the effect will only be to spread dislocation over a longer period.

Important as it is, dislocation of this type is only a temporary phenomenon, and it even has its advantages. Reports from a number of industries suggest that it is during the period when the pressure of war demands has ceased, but firms have not yet settled back into their peace-time routine, that the best opportunities will occur for achieving changes of permanent value in organization, technique, and location—changes which cannot be made in the face of war needs, and which firms would be unwilling to make if they involved disturbing normal production, particularly in conditions of full employment and active demand. Firms which are anxious to re-start normal production at a time of keen demand are scarcely likely to be deterred by negative control either of the location of their new plants or of other aspects of their policy, provided that a reasonably wide field of action is left open to them. In the face of acute difficulties in obtaining materials, new machinery, and labour, or in clearing premises used during the war for Government storage, many of them would in addition be ready to accept a considerable degree of positive control of their policies in return for special concessions.

Very much more serious is the more prolonged dislocation which may occur, in default of special measures to prevent it, in the industries in which capacity has expanded fastest during the war, and particularly in the engineering, shipbuilding, aircraft, and light metal industries. In view of experience after the last war, it is unnecessary to discuss dislocation of this type at any length here; its possible local incidence is discussed in more detail elsewhere. It is only worth while to emphasize the obvious fact that, since these industries were largely concentrated before the war in what down to 1939 were the depressed areas, it is largely in these areas that the incidence of dislocation is likely to be felt—though, of course, it would not be felt in these areas alone. After the last war readjustment in the engineering centres of the Midlands, including districts which were later among the most prosperous in the country, proved for a time exceedingly difficult, and was accompanied by unemployment and losses of population. There was a net emigration of approximately 50,000 from Birmingham and Coventry between 1921 and 1926, and it was only in the second half of the 'twenties that the tide turned.

On the analogy of the last war, dislocation of this type might be felt in particular cases up to ten years or more after the fighting ends.

Readjustment, if left to occur by the force of competition and combination alone, would involve shifts in the location of the industries chiefly concerned which might be of great importance to particular areas; it seems highly probable, for instance, that it would strengthen the tendency for the iron and steel industry in West Scotland to concentrate into fewer centres and to shift towards the North and West. It would undoubtedly involve a shift in the relative prosperity of different firms, particularly since the improvement in technical efficiency which has occurred during the war has not been distributed over all firms alike. To take another case from the iron and steel trades, it seems highly probable that, if any surplus capacity appeared after the war in the branches affected, the modern electric furnaces and other new equipment installed during the war by firms in Cumberland and South Wales would survive at the expense of firms such as the concern in the West Midlands whose plant was described by an investigator as 'out of date even by last war standards'. But there is not enough evidence to justify a general conclusion about the scale on which shifts of these kinds might occur.

LONG-TERM INDUSTRIAL TRENDS. GENERAL CONCLUSIONS

Setting aside dislocation of both of these types, is it possible to say with any certainty, on the basis of the general considerations so far brought forward and of the prospects for each industry as a whole, whether pre-war trends in the location of industry are likely to reappear? There are undoubtedly industries for which the war marks a turning-point, either because of developments which have occurred since 1939 or because the war happens to have coincided with a turning-point which would probably have been reached in any case. One example is the case of coal mining. The Minister of Fuel and Power gave his opinion in October 1943 that the long-term decline of employment in mining was coming to an end:

'From 1926 onwards . . . there was a greater supply of labour than there was a demand for it. The war has reversed that position, and so far as it is possible to see ahead the return to peace will not mean a return to pre-war conditions in respect of man-power in this industry.' (Hansard, H.C., 392.768, 12.10.43.)

This opinion is independently confirmed by an estimate made for Nuffield College by Dr. A. Beacham, which suggests that after the war the output of coal in a normal year, under conditions of good employment, may be about the average of the good years 1936 and 1937, and that the number of wage-earners available for work in mining may not exceed 750,000, as against the total of 769,000

actually employed on the average of the years from 1935 to 1938. Examination of the prospects for individual districts shows that there are a number where heavy unemployment among miners may still be expected, even in good years, and in other districts unemployment of a more general kind may well continue; it is one thing to reduce the labour force in the mining industry to the number which the industry can employ, and another to find actual work for men in a mining district who prefer to attach themselves to another trade. Nevertheless, it appears that the long decline of British coal-mining is coming to an end, and that prospects are better than for many years before the war.

In the case of the motor trade, the *Economist* has suggested that for a long time after the war the output of private cars and taxis should be at a rate of about 600,000 a year, or approximately 55 per cent above the peak level of 1938; and, while the *Economist's* estimate suggests that this rate of output may not be maintained in the long run, the increase of interest in motoring which seems likely to result from the war, and the probable rise in the standard of living, make it appear likely that this forecast is too pessimistic. In the case of building the Government's official proposals provide¹ for a maximum increase of about 20 per cent in the number of insured building workers above the level reached in 1938. If unemployment in the building trade were reduced to an average of even 10 per cent (it should be much lower) the increase in actual employment above the level reached in moderately good years just before the war would be about 25 to 30 per cent, and on a rough estimate the total increase of employment in the building trade and in the provision of materials, transport, and other indirect services to building would be of the order of 400,000. The holiday trades have already been mentioned as another group in which a rapid increase in employment can be expected after the war.

These are all cases where the change in trends is likely to be favourable. Examples of the opposite kind can also be quoted. The cotton industry is an outstanding case; the Committee of the Cotton Board appointed to investigate post-war problems has estimated that the output of the cotton industry (including some output of rayon and mixed goods) is as likely as not to settle down after the immediate post-war boom at a level about 12 per cent below the output of 1937, and that employment in spinning and weaving may fall short of the 1937 level by about 18 per cent.² This implies a lower level of employment than in the worst years of the slump of the 'thirties. Two cases of minor trades of great local importance also deserve to

¹ Cmd. 6428: *Training for the Building Industry*.

² Figures based on the Committee's middle estimate, which assumes that there will be no changes which would worsen the competitive position of the British cotton industry.

be mentioned. The jute industry, like the cotton industry, seems likely to experience a sharp fall in output and employment as compared with the years before the war; one estimate suggests that the permanent surplus of unemployed jute workers after the war, in the sense of the workers who are unlikely to be re-employed even at cyclical peaks, may be equivalent to between a third and two-fifths of the total number of insured workers in the industry in 1939. The tinsplate and sheet industry, one of the two main industries of West Wales, is in the middle of a technical revolution, resulting from the establishment of Richard Thomas's new strip mill at Ebbw Vale. The effect may well be to increase both exports and British consumption of British sheets and tinplates; at the same time, it seems probable that total employment will be drastically reduced, and that the location of the main part of the industry will tend to shift from West Wales towards the Eastern part of the South Wales Special Area, with serious consequences for a number of districts in the West.

The prospects for a number of other trades, on which the Nuffield Survey has made special reports, are considered elsewhere.¹ They show relatively few cases where sharp changes in pre-war trends appear to be expected.

A conclusion which stands out from the cases which have just been quoted, as well as from those which are examined separately, is that in nearly every instance where there is reason to expect an important change in trends the change seems likely to take the form of an acceleration or slowing down of the pre-war trend, with the trend continuing in the same direction as before. There are, of course, exceptions. The case of coal is one, and probably the most important. In general, however, the impression given is that, so far as it is possible to forecast prospects with any degree of certainty, pre-war trends are unlikely to be reversed; they may change their speed or relative importance, but are unlikely to show an entirely different type of pattern.

This impression is confirmed by the general considerations which have been put forward. It is clear that the dispersal of industry and offices, the establishment of new works, the scattering of part of the population, the employment of new classes of labour, and other changes, have had permanent effects of great local importance; and it is clear also that they have opened up important opportunities for fresh development. They have resulted in the building of new factories and the creation of trained labour forces in areas where both these things were urgently needed before the war; they have provided opportunities to use new dispersed and decentralized developments as a basis for new towns and industrial centres, serving the purpose either of relieving unemployment or of reducing

¹ *Studies in Industrial Organization*, edited by H. A. Silverman.

congestion; they have stimulated new developments in industry and service trades which might be turned to account as means of relieving localized unemployment; and, most important of all, they have shown that excess unemployment can be wiped out quickly. The methods by which excess unemployment has been abolished may not be entirely applicable to peace-time; but the fact that it has been abolished will not be forgotten. At the same time, it is evident that what the war has provided is opportunities for an advance towards a solution, and not the solution itself. It has been pointed out that, on the whole, there is more chance that new war factories will continue in use as a net addition to the productive capacity of their districts in the South than in the North, and it has also been shown that the largest Royal Ordnance Factories, whose value for normal industry is problematic, have for strategic and technical reasons been sited largely in the areas of the North and West which were depressed down to 1939. It has been shown that wartime industrial developments have tended to go to regions where similar developments occurred before the war. The wartime developments which have favoured the North and West and worked to the disadvantage of the South and East—the movements of industry and population, the changes in industrial organization, and the shift in the types of production carried on by existing industries—are likely in most cases to be reversed once the war is over unless a definite effort of official policy is made to retain them. There may be new opportunities for making a fundamental change in the pattern of British industry; but there is no reason to suppose that a fundamental change will necessarily occur merely as a result of what has happened during the war.

All these considerations converge towards the same conclusion. The Barlow Commission argued at the beginning of the war that, unless industrialists continued after the war to build their factories in the North and West for strategic reasons:

‘and in the absence of some restrictive regulation by the Government, we find no reason for supposing that the trend to the South-east will be permanently checked after the Government’s rearmament policy, which of late has greatly increased employment in the North and West, has accomplished its purpose’ (Barlow Report, Cmd. 6153, par. 104).

The Commission based their argument on the probability that pre-war trends in industry generally would re-emerge, and would continue to operate in much the same direction as before. On the whole, the general considerations so far brought forward support the Commission’s view. They suggest that the trends which brought prosperity to the South-east and depression to the North and West will

continue, with the position of the Midlands somewhat uncertain; they suggest in addition that in the decade or so after the war dislocation due directly to the war may affect the North more seriously than the South, though in the very short run the difficulties of readjustment may affect both alike. On the other hand, the same considerations also support the further conclusion of the Barlow Commission that the pre-war trends were not inevitable, and that opportunities could be found for checking or reversing them.¹

Note on the Estimates of Wartime Industrial Development used on pp. 56-60.

These estimates are based on statements of intention to build new industrial premises, reported in *The Times Trade and Engineering Supplement*, not on the number of buildings actually completed; except in the early stages of the war, when projects drawn up on the assumption that the Western Front would be held may have had to be abandoned, it is doubtful whether any great allowance needs to be made for this. Mr. Andrews comments on this point as follows:

'The reports are in themselves only statements of intention to build, and some intentions may have been subsequently frustrated or abandoned. The items reported in the early days of the war may have been greatly affected. . . . Apart from this period, the general impression derived from a study of the reports is that they are serious intentions so far as their proposers are concerned, and it seems unlikely that many have been abandoned. It is of course possible that the carrying out of some projects has been countermanded by wartime controls, licensing authorities, etc., but the incidence of this is not known.'

The figures refer to Great Britain alone, excluding Northern Ireland. The gap between the report of a project and the completion of the buildings concerned would generally be of the order of six to eighteen months, according to the size and type of building in each case, so that the reports dating from the period between September 1939 and June 1941, which form the basis of the Tables, relate to buildings which must in most cases have been completed between the spring of 1940 and a period running from the spring to the autumn of 1942.

It is possible to use the wartime statistics as a basis for a broad comparison with the figures given in the Board of Trade's *Annual Survey of Industrial Development*, of which the last published issue refers to 1938, provided that certain cautions are borne in mind. The Board of Trade's returns refer to works actually opened, not to projects. The same regional and industrial classification has been used in analysing *The Times Trade and Engineering Supplement*

¹ Cmd. 6153, paragraph 105.

returns as was followed before the war by the Board of Trade; but the type of building included is not the same in each case. 'Factories', as defined in the case of the wartime returns, include some establishments not used for manufacturing, such as laundries and warehouses, and may also include some works employing less than twenty-five people; the *Annual Survey* excludes both these classes, and may, on the other hand, include a certain number of factories which are newly opened, but have not necessarily been newly built or reconstructed. The errors likely to arise from this lack of precise comparability are not great enough to prevent useful comparisons in broad terms. The wartime statistics cannot be carried beyond June 1941, since in the following quarter the form in which reports are published by *The Times Trade and Engineering Supplement*, and the method of selecting reports for publication, changed in a way which destroyed much of the representative character which the reports from earlier months possessed.

CHAPTER III

WALES AND MONMOUTHSHIRE

BEFORE the war Wales experienced what by any test was the most severe depression of any region in Great Britain. The number of workers insured rose between 1923 and 1937 by 2 per cent, as against 22 per cent in Great Britain as a whole. Wales was the only one of the Ministry of Labour's nine Divisions in Great Britain in which the number of insured workers actually in employment was smaller in 1937 than in 1923; the fall in Wales was over 14 per cent, as compared with a rise of 24 per cent in the country generally. The fall occurred between 1923 and 1929, when employment in Wales was 15 per cent below the level of 1923; the decline in these years was followed by a further cyclical drop, at the end of which the low level of 1929 was barely recovered. Unemployment in Wales averaged 10 per cent above the national level between 1927 and 1931, and 16 per cent above it between 1931 and 1936. Persistent and cyclical excess unemployment were both exceptionally severe. Nearly 16 per cent more of the insured population of Wales were unemployed at the peak of 1937 than if unemployment in Wales had stood at the level of London and the South-east, and cyclical excess unemployment in 1932 affected 9 per cent of the insured population—a considerably higher proportion than in either Scotland or the North of England. Prolonged unemployment was more severe in Wales than in any other part of the country; with $4\frac{1}{2}$ per cent of the insured population of Great Britain, Wales contained 19 per cent of the workers unemployed for twelve months or more in December 1936, and 16 per cent in February 1938, and in February 1938 $6\frac{1}{2}$ per cent of all the insured workers in Wales had been out of work for a year or more.

Unemployment in Wales was widespread as well as severe. There is no county in Wales in which unemployment between 1931 and 1936 was below the average for Great Britain, and in most it was far above it. There was no prosperous zone, as in East Scotland, and none of the large towns stood out from the general depression in the way in which Manchester (for example) stood out in Lancashire. Cardiff, where the percentage unemployed was exceptionally low by comparison with the rest of Wales, had about the same level of unemployment in the 'thirties as Dundee, which in Scotland was rightly regarded as a depressed area. In view of this universality of unemployment it is not surprising that Wales experienced very heavy emigration between the two wars. It is estimated that between 1923

TABLE 17. WALES—Numbers recorded as employed at the Census of Production, 1930 and 1935

	Area 12 South Wales (including Monmouth ^s)				Corresponding % for Great Britain		Area 13 Rest of Wales			
	1930		1935		1930	1935	1930		1935	
	No.	% of all employed	No.	% of all employed			No.	% of all employed		
Mechanical Engineering	2,632	0.9	2,486	1.0	6.5	6.0	274	0.5	268	0.5
Other Engineering	7,507	2.6	6,886	2.8	8.8	9.3	713	1.3	460	0.8
Total Engineering	10,139	3.5	9,372	3.8	15.2	15.3	987	1.7	728	1.3
Tinplate	22,856	7.8	19,829	8.0	0.4 ⁷	0.3	— ^s	—	— ^s	—
Iron and Steel Smelting and Rolling	18,152	6.2	19,560	7.9	1.9	1.9	4,373	7.8	5,052	9.3
Other Iron and Steel	8,918	3.1	9,833	4.0	4.7	5.3	959	1.7	779	1.4
Total Iron and Steel	49,926	17.1	49,222	19.9	7.0	7.5	5,332	9.5	5,831	10.7
Non-ferrous Metals ¹	3,300 ⁶	1.1	3,300 ⁶	1.3	1.6	1.7	500 ⁶	0.9	400 ⁶	0.7
Textiles	388	0.1	1,289	0.5	14.1	13.7	4,172 ⁹	7.4	6,031 ⁹	11.0
Leather	100 ⁶	0.0	100 ⁷	0.0	0.7 ⁶	0.7 ⁷	300 ⁶	0.5	300 ⁶	0.5
Clothing	1,746	0.6	1,828	0.7	7.0 ⁷	7.4 ⁸	269	0.5	291	0.5
Food, Drink, Tobacco	7,165	2.5	7,864	3.2	6.7	7.2	676	1.2	1,146	2.1
Chemicals, etc.	1,940	0.7	1,251	0.5	2.5	2.7	586	1.0	863	1.6
Paper, Printing, Stationery	2,995	1.0	3,000 ⁶	1.2	5.4	5.7	795	1.4	900 ⁶	1.6
Timber	1,900 ⁶	0.7	1,700 ⁶	0.7	2.4	2.7	600 ⁶	1.1	600 ⁶	1.1
Clay and Building Materials	3,100 ⁶	1.1	3,200 ⁶	1.3	3.2	3.5	2,300 ⁶	4.1	2,800 ⁶	5.1
Miscellaneous ^{2,3})	2,500 ⁷	0.9	2,500 ⁷	1.0	2.5	2.5	200 ⁶	0.4	100 ⁶	0.2
Other Factory Trades ⁴	—	—	549	0.2	—	—	—	—	104	0.2
Total Factory Trades	85,094 ⁸	29.1	85,175 ⁸	34.5	68.2	70.5	16,700	29.7	20,094	36.8
Slate Mines and Quarries	—	—	—	—	—	—	8,677	15.4	8,327	15.2
Coal Mines	172,026	58.9	130,007	52.7	13.2	10.6	14,778	26.3	10,228	18.7
Other Non-Factory Trades	34,882	11.9	31,617	12.8	18.6	18.9	16,125	28.6	15,944	29.2
Total Non-Factory Trades	206,908	70.9	161,624	65.5	31.8	29.5	39,580	70.3	34,499	63.2
TOTAL ALL TRADES	292,002	100.0	246,799	100.0	100.0	100.0	56,280	100.0	54,593	100.0

For footnotes see foot of facing page.

and 1936 about 360,000 people, the equivalent of $13\frac{1}{2}$ per cent of the 1921 population, left Wales on balance for other parts of Great Britain. The general deterioration of economic conditions all over Great Britain during the 'thirties stopped the tide of emigration from North and Central Wales as a whole (Ch. I, Table 3); but even between 1931 and 1936 Glamorgan and Monmouth continued to lose population at a rate of considerably more than 1 per cent each year. Although the populous counties of South Wales have exceptionally high fertility, the population of Wales as a whole fell between 1931 and 1938 by 128,000, or 4.9 per cent. It had already fallen by 62,000, or 2.3 per cent, between 1921 and 1931.

The depression of the years before the war was due to specialization on a small number of trades, several of which were simultaneously declining. The narrowness of the range of manufacturing and extractive industries in Wales as a whole is illustrated by the Census of Production figures in Table 17; blast furnaces, iron and steel smelting and rolling, tinplates, coal mining, and slate mining and quarrying accounted in 1935 for nearly 65 per cent of all workers in Census of Production trades in Wales, and five years earlier the proportion employed in these groups had been no less than 70 per cent. Some 10 per cent of the occupied population of Wales were engaged in agriculture at the Census of 1931, and the tourist trade was also important, though difficult to distinguish statistically. For the purposes of the Survey, Wales was divided into four main regions (Map I), each of which has in the past specialized on a small selection from the narrow range of occupations in Wales as a whole. In North Wales slate quarrying, coal mining, and iron and steel shared their predominance with agriculture, the tourist trade, and (in Flintshire) rayon—the impression of a balanced economy is unjustified, since

¹ Final figures for Non-ferrous Metals are given for Wales as a whole:

1930	.	.	.	.	4,060	}	1.17
1935	.	.	.	.	5,681	}	1.88

² Final figures for Miscellaneous Trades are given for Wales as a whole:

1930	.	.	.	.	2,656	}	0.76
1935	.	.	.	.	2,601	}	0.86

³ Individual industries in the Miscellaneous Trades changed slightly between 1930 and 1935, e.g. the Match Trade was included only for 1930.

⁴ The figure for Other Factory Trades is obtained by deducting the total of the individual industrial groups for the final figures for all factory trades. As some of the individual figures are preliminary ones, there is a small discrepancy (i.e. in 1930 the individual figures add up to slightly more than the total final figure given).

⁵ Monmouth, Glamorgan, Brecon, Radnor, and part of Carmarthen.

⁶ Only preliminary figures are available.

⁷ These percentages are based on figures for the United Kingdom.

⁸ Figures not separately given.

⁹ Principally rayon. There were 6,800 insured rayon workers in North Wales in July 1936.

within North Wales itself the dominant industries are to a considerable extent localized in different districts. Central Wales depends principally on agriculture and the tourist trade. In the two sectors of industrial South Wales iron and steel, tinplates, and coal mining remained overwhelmingly important down to the war. South-west Wales, the fifth region on the map, was not officially covered by the Survey, though a certain amount of information on it was obtained. It is predominantly agricultural, with an important fishing industry centred at Milford Haven, a tourist industry, and a special industrial problem at Pembroke, which was included before the war in the South Wales Special Area.

NORTH WALES

The North Wales Survey area had in 1938 a population of rather more than half a million, concentrated largely in the East and North. The Western and Southern part of the area—Anglesey, Caernarvon, Merioneth, and Montgomery, and part of the Western section of Denbigh and the coastal area of Denbigh and Flint—depended until the war principally on agriculture, the tourist trade, work connected with the docks and shipping service at Holyhead, and slate- and stone-quarrying. Along the coast of Flint from Point of Air to the Cheshire border there were a number of important industries, principally iron and steel and rayon, and the area round Wrexham depended chiefly on coal mining. There is one important colliery in Flintshire, at Point of Air. There were a variety of other smaller industries, chiefly in the industrial area of Flint and the mining area of Denbigh, including among others chemicals, woollens, paper manufacturing, saw-milling, and metal windows. Altogether (Table 17), of 54,600 workers in manufacturing and extractive trades in Central and North Wales¹ at the Census of 1935, some 10,200 (19 per cent) were employed in coal mining, 8,300 (15 per cent) in slate mining and quarrying, and 20,100, or 37 per cent, in factory trades. Well over half of the workers in this last group were in iron and steel and rayon.

Unemployment in the Western and Southern part of the six counties was small in absolute numbers before 1939, but very severe in several areas in relation to the number of insured workers. In all, excess unemployment in 1937 affected about 5,000 workers in Anglesey, Caernarvon, Montgomery, and Merioneth, the equivalent of about 12 per cent of the insured population. In Anglesey employment had fallen in the dock and shipping services at Holyhead. On the mainland there had been some contraction in employment in slate-quarrying; in Great Britain as a whole employment in slate-quarrying, for which North Wales is by far the most important centre,

¹ Including Cardigan, Pembroke, and the western part of Carmarthen.

fell 13 per cent between June 1927 and June 1937. The number of workers affected by excess unemployment in the two Eastern counties of Flint and Denbigh in 1937 was about 6,600, or slightly over 10 per cent of the insured population. Persistent excess unemployment in Flint, while severe enough by national standards, was less severe than in any other county of North Wales; but Flint experienced in the early 'thirties a very much greater degree of cyclical unemployment than the other counties or the country as a whole. Most of the persistent excess unemployment in these two counties was concentrated in the mining area round Wrexham; the output of coal in North Wales fell from 3,400,000 tons in 1924 and 3,500,000 tons in 1929 to 2,800,000 tons in 1937, and over the same period employment fell from 19,100 to 10,000. Employment in this area was also affected during the slump of the 'thirties by the closing down for two years of the Brymbo Steelworks, a few miles north-west of Wrexham.

The war has very largely remedied these conditions, and has brought the North Wales Survey area a number of permanent as well as temporary advantages. The influx of private evacuees and of Government and other offices has provided the coastal holiday resorts with a steady income, and a possibility of building up reserves against the future, which has not been available to most resorts in the South, South-west, and East of England. There has in addition been a substantial development of new industries, considerably more than enough to take up the slack of pre-war unemployment. The two largest groups of new industries are explosives—a large Royal Ordnance Factory has been built—and light engineering, chiefly on aircraft components, aircraft assembly, shell manufacturing, and machine tools. A tube works and a large chemical works have also been built.

In view of these new developments, and of other changes which have taken place before and during the war, it is hard to see any essential reason for a recurrence of persistent unemployment in the Eastern and Northern part of the six counties, provided that a serious effort is made to take advantage of the new opportunities which have been opened up. At least part of the new industrial development in this district may remain in any case, and use could be made of much of the remainder in a policy of planned development. A detailed inquiry into the position at the new Royal Ordnance Factory showed that, if it was not required after the war for munitions or for some related product (plastics was suggested), it could be converted into a trading estate. The existing services and a number of the buildings could continue to be used, and the site is suitable from the point of view of labour supply. Steel windows and other builders' materials are among the products suggested. A new light engineering tradition has been built up in this area—workers have been trained in technical

processes, and have become accustomed to factory work—and it should be possible to make valuable use of this. The older established industries in the Eastern and Northern part of North Wales should provide at least as much employment as before the war, and may well expand. Employment in rayon should increase, and there should be a considerable development of the tourist trade. The largest iron and steel works, John Summers and Sons, Ltd., at Shotton, was reorganized shortly before the war. A new wide strip mill was installed, and as a result of this and other changes this firm's position in steel sheet manufacturing appears to be secure. The position of the other main steel firm in the area, the Brymbo Steel Company, which makes principally special steels, is less certain; this firm was also reorganized shortly before the war. There may be a fall in employment in one or two small concerns in the iron and steel trades, and possibly a larger fall in coal-mining. The North Wales field has in the past worked at a fair profit, and has secure markets locally and in Lancashire and Cheshire; but some permanent drop in output is possible as a result of the increasingly difficult working conditions in part of the field.

The future of the Western part of the area should also be reasonably bright, though uncertainty over the future of agriculture makes any definite prediction difficult. In view of the extent of war damage and of the Government's long-term building programme there is no reason to expect depression in the slate-quarrying industry for some time to come; in the short run there is even likely to be some difficulty in keeping up with demand, in view of the number of men who have left the industry during the war, and who may not in all cases be willing to return. No doubt the long-term tendency for the relative popularity of slates to decline and of tiles to increase will continue; but, if the aggregate demand for slates and tiles together increases to the extent which appears probable, this may not imply an absolute fall in the demand for slates for many years to come. In certain directions it should be possible to improve the efficiency of the slate industry and to stimulate new demands. The Welsh Reconstruction Advisory Council¹ have taken steps during the war to promote a comprehensive organization of the slate-quarrying industry, with a view to the modernization and development of the industry, research, and improved marketing technique and control, and as a result of this and of other factors a number of improvements in the industry's organization have been made. The use of slate waste is mentioned by the Welsh Reconstruction Advisory Council as one direction in which research by the organized industry might produce valuable results.

Ultimately, no doubt, decline will set in again—certainly in twenty

¹ First Interim Report, 1944, p. 49.

or twenty-five years' time, when the most urgent demands for building in the country as a whole have been met, and possibly sooner. It is unlikely for technical reasons to be possible to reduce the price of slates sufficiently to counteract the public preference for tiles. The slate industry operates under conditions of diminishing returns; the leading mines and quarries have been working for over a hundred years, and it appears that output per head in the industry has been falling since the last quarter of the nineteenth century. Slates of any given size are a joint product with slates of other sizes, and accordingly it is impossible to concentrate on the most popular sizes to the extent which is practicable in tile manufacturing—there is a factor of time here as well as of cost, since it is very much more difficult in the slate industry than in tile manufacturing to meet a sudden rush of demand by concentrating on the particular sizes required. In view of these conditions, it is likely that when the general demand for building materials eventually drops the slate industry will be particularly hard hit. 'A whole community of people,' as the Nuffield Survey's report on North Wales points out,

'living in urbanized rural villages in the region, owning their own houses with gardens, in Llanberis, Bethesda, Nantlle, Caernarvon, Penygroes, as well as in Blaenau Ffestiniog, numbering in all little short of 100,000 people, are dependent on the industries of slate and granite production; they are highly skilled, wholly Welsh in language, history, tradition, and culture, with a high level of intelligence and social organization, good standards in literature and music and general education. This community would be left derelict if these industries collapsed.'

This is clearly a case where emigration and the break-up of communities would be particularly undesirable, and careful planning to ensure that new industries are available in these districts to take up the eventual slack in slate-mining and quarrying is essential.

There are a number of immediate possibilities of development in the Western part of North Wales, including the possibility of making some permanent use of the industrial development which has occurred during the war along the coast and in Anglesey. Interviews with firms suggested that it should not be difficult to encourage the retention of at least some light engineering work in the area. It has been suggested in North Wales that in view of local weather conditions new aerodromes in Anglesey and Caernarvon should be considered after the war as possible bases for transatlantic flying, and that any permanent developments in light engineering should be linked to this development of air transport and largely centred round

it. This suggestion has to be considered in relation to proposals for an air base in South Wales; it may be doubted whether there will actually be room for both.

The main opening for new economic development in the western counties of North Wales lies in the tourist trade. The establishment of more hostels, camps, and holiday homes, a programme of rural housing and electrification designed to enable farmers and other people in the country to take in a few guests in the summer at a good standard of accommodation, developments in the food and woollen industries linked to the holiday trades, stronger town-planning control of amenities, and improvements in transport could all contribute. The proposal of the Scott Committee for the reservation of the country round Snowdon as a National Park¹ and the Welsh Reconstruction Advisory Council's proposal for improved training facilities for workers in the catering and entertainment industries² would help in the same direction. In recent years a number of proposals have been put forward for improving the navigation of the Dee, for land reclamation on one or both banks of the river, and for a bridge to facilitate movement from Lancashire to Flint. It is not clear how far these proposals are compatible, or, if they are not compatible, which should actually be adopted; but it may reasonably be stressed that any measure which improved the access from Lancashire to North Wales would have valuable results for the tourist trade. Improvements in local as well as long-distance transport would also be of value; as a result of the natural difficulty of the country and of poverty and sparse population the road system of a large part of both North and Central Wales remains seriously defective both in quantity and in quality.

CENTRAL AND SOUTH-WEST WALES

At the time of writing (the spring of 1944) the work of the Nuffield Survey on Central Wales has not yet been completed: this region can therefore not be considered in detail, though the broad outline of its problems is clear. They are primarily agricultural, since 38 per cent of the occupied population of the West Coast and central moorland district of Wales³ and 28½ per cent in the south-western district were directly engaged in agriculture in 1931, as against 10 per cent in Wales as a whole and 6 per cent in England and Wales together. Agriculture was failing to provide a satisfactory living before the war, there was considerable unemployment among insured workers, and the drift of the population to other parts of the country was proceeding here as in the rest of Wales.

¹ Report of the Committee on *Land Utilization in Rural Areas*, paragraph 231. (Cmd. 6378.)

² Report, p. 62.

³ As defined by the Welsh Reconstruction Advisory Council.

While measures for the stabilization and development of agriculture and for afforestation are essential to the future prosperity of this area, it is probably in the tourist trade that the best hope of rapid and large-scale development lies. Central Wales and the Western coastal districts have great natural advantages for the tourist trade; the Scott Committee included the Pembrokeshire coast along with the Snowdon district among the five areas in England and Wales regarded as outstandingly suitable for national parks. The central moorlands of Wales have a climate which limits their value as tourist districts; but even the moorlands could be used for the tourist trade to a very much greater extent than in the past. Better publicity than in the past is needed to ensure that full use is made of the possibility of developing the tourist trade, and improved accommodation, electrification, and the other measures suggested for North Wales are also required. The chief need of the tourist industry in this district is, however, improved accessibility. The improvement of railway services, the construction of a Severn road bridge to improve access from the South of England to South and Central Wales, and the provision of a new trunk road from north to south through Central Wales appear to be the main requirements. Inaccessibility is probably the greatest single difficulty (apart from short-term problems of accommodation) in the way of a rapid development of the tourist trade in Central Wales and on the West Coast; the measures taken to remove this difficulty would incidentally be of great value to Welsh agriculture, and would substantially improve the prospects of attracting new light industries to the small rural centres.

South-west Wales has two special problems in the fishing industry of Milford Haven and the potential depressed area of Pembroke Dock. Milford is the leading Welsh fishing port, and fishing is by far its most important occupation. The fishing industry is likely to be faced with considerable short-term problems over the release of boats requisitioned by the Admiralty, rebuilding—a satisfactory source of long-term credit is needed—and general modernization. There appear to be a number of possibilities of new development in connexion with the fishing industry, particularly in fish preserving, canning, and the use of by-products. In some of these cases possibilities of commercial development are already visible, provided that capital is available to exploit them; in others, particularly in the case of by-products, further research is required.

The problem of Pembroke Dock is of long standing. The dock-yard at Pembroke was established in 1814, and closed over a period after the last war. On balance, more than a quarter of the population left Pembroke Municipal Borough (including the old town of Pembroke, which existed before 1814 and still remains as a market town

for the neighbourhood) between 1921 and 1931, and there was some further fall between 1931 and 1938. In spite of emigration unemployment remained high; even in the last months before the present war, when some military activity had returned to the district, between a quarter and a third of the insured population remained out of work. As a result of the prolonged depression and unemployment at Pembroke Dock, Pembroke Municipal Borough was included in the South Wales Special Area. In the light of the information available it is difficult to feel any great optimism over the future of Pembroke; there is no obvious sign of new developments which would guarantee the town against a recurrence of unemployment. The best hope for the future probably lies in the development of a small trading estate or industrial site in Pembroke Borough, with an improvement in communications to the north side of Milford Haven, where there appears to be some possibility that wartime developments may lead to a permanent increase in employment; there are also certain possibilities in connection with the tourist industry.

INDUSTRIAL SOUTH WALES

The Eastern and Western sectors of industrial South Wales cover between them Monmouth, Glamorgan, the corner of Brecknock nearest to Merthyr Tydfil, and Carmarthen as far east as Kidwelly—approximately the area of South Wales as defined in the Census of Production, less Radnor and the northern part of Brecknock. This is also approximately the area covered by the *Second Industrial Survey of South Wales*, with the addition of the Chepstow Urban and Rural Districts. The boundary between the Eastern and Western sectors is difficult to draw, since the Neath and possibly also the Afan Valley belong in a sense to both. A distinction is important, since the Western sector depends principally on anthracite mining, the steel sheet and galvanizing and tinplate industries, and iron and steel manufacturing in connection with tinplate and sheet manufacture, while in the Eastern sector the coal mined is bituminous, and the steel, tinplate, and sheet industries, though important, were in the last years before the war very much less important relatively to total employment in their sector than the corresponding industries in the West. For the purposes of the Nuffield Survey the Eastern and Western sectors were defined so as to overlap in the West Central area round the Neath Valley. Broadly speaking, the problems of Neath and Port Talbot Boroughs and Neath Rural District have to be considered with the rest of the Western sector, and the future of the remainder of the area with the Eastern sector; but the division cannot be kept clear, and some general discussion of the position in the West Central area is necessary in dealing with the Eastern and Western sectors alike.

THE EASTERN SECTOR OF INDUSTRIAL SOUTH WALES

(a) *The pre-war problem.* The Eastern sector is made up for the most part of a series of valleys, the majority of which—the chief exceptions are the Neath and Afon valleys—open on to the coastal plain round Newport, Cardiff, and Bridgend; their direction has largely determined the course of industrial development. Geographically and economically the area falls into eight distinct districts, which are defined on Map IV. Its population in 1938 was 1,327,400, some 165,000 less than in 1929; a fall of 11 per cent, due to persistently high unemployment and the resulting migration. Thanks to the high fertility and rate of natural increase in South Wales the effect of emigration on the age-distribution of the local population was less damaging than is sometimes supposed; in South Wales as a whole emigration reduced the proportion of young men and women to about the average for England and Wales together (Table 18), but not below it. Nevertheless the loss of population represented a heavy drain, which was felt with special severity (Table 19) in the valleys of a central block consisting of the Merthyr, Pontypridd, and Rhondda, and Rhymney Valley and Tredegar areas, in all of which unemployment was extremely high. It was slightly lower in the East, where the Eastern valleys of Monmouthshire run down into the agricultural plain of Monmouthshire, and in the West Central area. It was lowest of all in the coastal plain round Newport, Cardiff, and Barry, where unemployment was somewhat smaller, and in the Severn Tunnel area where, in 1938, industry was little developed.

TABLE 18
ESTIMATED AGE STRUCTURE, 1938

Glamorgan, Monmouth, Brecon, and Carmarthen. Percentage of total population in each age-group.

	Males		Females	
	Wales	England and Wales	Wales	England and Wales
0-14	24.7	22.6	25.0	20.4
15-34	32.7	33.4	31.7	31.6
35-44	14.8	14.4	14.8	14.9
45-64	21.2	21.8	21.3	23.7
65 and over	6.6	7.8	7.2	9.5

The dominant industry of the whole of the Eastern sector of South Wales is coal mining (Tables 20-21), with iron, steel, and tinplate second. Broadly speaking, the valleys depend on coal mining, while the iron, steel, and tinplate industries, the main centres of the professions and services, and the minor manufacturing industries of the region are situated at the foot of the

TABLE 19

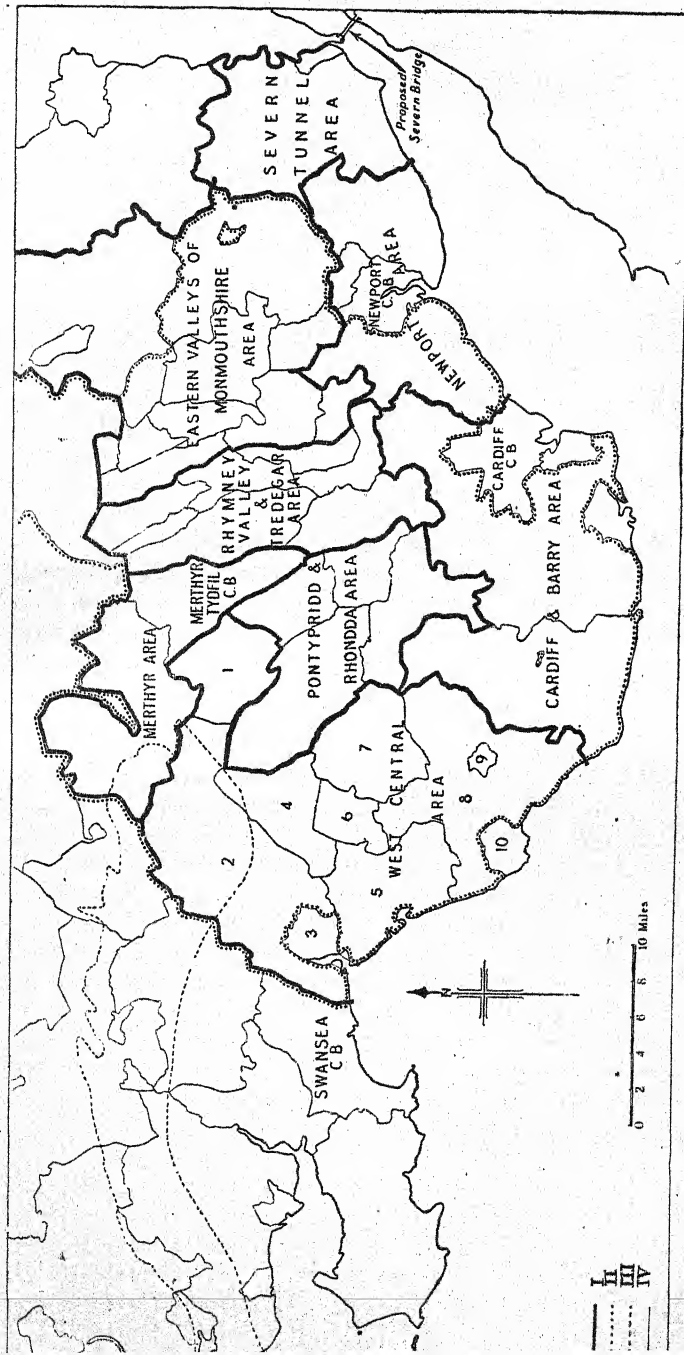
DISTRIBUTION OF POPULATION, MIGRATION, AND UNEMPLOYMENT
EASTERN SECTOR OF INDUSTRIAL SOUTH WALES, 1929-38

	% of insured workers un- employed, June 1935	Net outward balance of migrants, 1929-38, as % of 1938 population	% of total population of region in each area 1938
Severn Tunnel area	c. 6	6	1.0
Newport area	20.0	9	8.4
Cardiff and Barry area	24.5	6	24.0
Eastern valleys of Monmouthshire	31.8	20	14.5
Rhymney Valley and Tredegar area	30.9	26	11.2
Merthyr area	47.5	25	5.0
Pontypridd and Rhondda area	38.0	26	16.4
West Central area	24.0	15	19.3

valleys or on the coastal plain. The dependence of most of the valleys on coal has in the past been overwhelming; in the Pontypridd and Rhondda area, the extreme case, the proportion of the insured population engaged in coal mining in 1923 reached the extraordinary level of 87 per cent. The coastal areas of course depend indirectly on coal, since the ports are largely concerned with exporting coal and importing such goods as pit-props; but Table 21 shows clearly enough the more varied nature of the coastal industries.

It is with reference to this distribution of industries that the reasons for the high level of unemployment and emigration in the Central and Eastern valleys have to be considered. The most important was the decline of employment in mining. Employment in bituminous coal mining in the Eastern sector—that is, all employment in coal mining outside the anthracite district of the West Central area—fell between 1923 and 1937 from 213,000 to 108,000,¹ or practically 50 per cent. Some 56 per cent of the insured population of the Eastern sector were engaged in coal mining in 1923, without any allowance for the indirect dependence on mining of many workers in other occupations, and the effect of this drop on the districts chiefly concerned is not difficult to imagine. The Cardiff, Newport, and Severn Tunnel areas, which have one colliery between them, were affected only indirectly and to a limited extent, while the upper part of the Neath Valley benefited from an actual increase in employment in anthracite mining. The full force of the depression was felt in the central valleys, the eastern valleys of Monmouthshire, and the steam coal mining districts in the south and east of the

¹ Estimate from A. E. C. Hare, *The Anthracite Coal Industry of the Swansea District*, pp. 77 and 84, 1940.



INDUSTRIAL SOUTH WALES: SUB-DIVISIONS OF THE EASTERN SECTOR AND BOUNDARY OF THE ANTHRACITE COALFIELD

Map No. IV Index shows: (I) Boundary of Sub-regional Areas; (II) Boundary of South Wales Special Area (part of Crickhowell R.D. not shown); (III) Approximate boundary of Anthracite Coalfield; (IV) Boundaries of Local Government Authorities.

In the West Central Area the Local Authority Areas shown are (1) Aberdare U.D., (2) Neath R.D., (3) Neath M.B., (4) Glyncorrwg U.D., (5) Port Talbot M.B., (6) Maesteg U.D., (7) Ogmore and Garw U.D., (8) Penybont R.D., (9) Bridgend U.D., (10) Porthcawl U.D.

The four County Boroughs are named on the map.

TABLE 20

EASTERN SECTOR OF INDUSTRIAL SOUTH WALES: PERCENTAGE OF THE INSURED POPULATION IN CERTAIN INDUSTRIES

	1923	1929	1938	1939
Coal mining	56	50	36	33
Iron and Steel	5	5	5	5
Tinplate	2	2	2	2
Distribution	7	10	12	13
Other occupations	30	33	45	47

West Central area. The sharpest decline of all occurred in the steam coal districts in the West Central and Pontypridd and Rhondda area, and at the northern end of the valleys generally, where the pits are relatively old and in many cases exhausted.

The distress of the districts at the heads of the valleys was aggravated by the practical disappearance of the iron and steel industry based on the local ores and founded in the earliest days of the Industrial Revolution. From the beginning of the twentieth century—earlier, in some cases—until the depression of the 'thirties, a continual succession of works closed down as a result of the exhaustion of the local ores and the cost of hauling alternative raw materials to the tops of the valleys. Some of the works closed completely, with a dead loss to South Wales of the employment formerly given in them. In other instances work was transferred to plants on the coast, which could be more economically operated; the transfer of Guest, Keen, and Baldwin's works from an old plant at Dowlais to Cardiff is the outstanding example. The result to the valley towns was in either case the same.

In addition to the visible unemployment due to these causes, the valleys and the Eastern sector as a whole experienced a good deal of concealed unemployment, especially among women. A lack of openings for paid work for women outside domestic service was a feature common to all areas before the war, though specially marked in the mining valleys. Even in the Cardiff and Barry area there were no more than 22 insured women and girls in 1938 for every hundred insured males, as against the national proportion of 40. In the Rhymney Valley and Tredegar area, to pick one of the mining districts at random, the proportion in 1938 was six females to each hundred males.

By 1938 the Eastern sector as a whole had gone some way towards adjusting itself to the decay of mining and the decline or shift of the iron and steel industry (Table 20). Till 1929 the tendency had been to wait for something to turn up. From then onwards the process of adjustment was more rapid; between 1929 and 1938 the proportion of workers in the Eastern sector insured in coal mining fell from

50 per cent to 36 per cent, while the proportion insured in the distributive trades and in other industries and services rose from 43 per cent to 57 per cent. But great maladjustments still remained. Large areas still depended overwhelmingly on coal mining; the proportion of all insured workers engaged in coal mining remained at 42 per cent in the Merthyr area, 62 per cent in the Pontypridd and Rhondda area, 68 per cent in the Rhymney Valley area, and 47 per cent in the eastern valleys of Monmouthshire. The drift out of coal mining was not fast enough to prevent the persistence of severe unemployment in coal mining itself, and at the same time was too fast for the growth of employment in other industries to keep pace with it, even when helped by migration to work in other parts of Great Britain. Unemployment remained high even in the coastal belt, with its relatively diversified economy. Cardiff, Newport, and Port Talbot,

TABLE 21 (a)
THE CARDIFF AND BARRY AREA
Estimated Numbers Insured, July 1938

Industry	Males	Females	Total	% of Total
Shipping Service	5,680	70	5,750	6.5
Dock and Harbour Service	4,100	10	4,110	4.6
Ship Repairing	2,770	20	2,790	3.1
Railway Service	3,220	70	3,290	3.7
Iron and Steel Smelting and Rolling	2,620	20	2,640	3.0
General Engineering	990	220	1,210	1.4
Railway Carriage and Wagon Building	970	20	990	1.1
Grain Milling	890	300	1,190	1.3
Bread, Biscuits, Cakes	900	690	1,590	1.8
Printing and Publishing	1,160	470	1,630	1.8
Cement and Lime Kilns	640	10	650	0.7
Building	6,700	30	6,730	7.6
Distributive Trades	11,140	7,100	18,240	20.6
Hotels and Restaurants	990	2,220	3,210	3.6
Commerce and Finance	700	320	1,020	1.2
Gas, Water, Electricity	1,770	100	1,870	2.1
Local Government	3,010	850	3,860	4.4
All Other Industries	20,820	7,040	27,860	31.4
Total General Scheme	69,070	19,560	88,630	100.0

TABLE 21 (b)
THE NEWPORT AREA

Industry	Males	Females	Total	% of Total
Shipping Service	1,080	—	1,080	3.5
Dock and Harbour Service	1,590	—	1,590	5.1
Ship Repairing	650	—	650	2.1
Railway Service	2,300	80	2,380	7.7
Iron and Steel Smelting and Rolling	5,160	30	5,190	16.7
Steel Tube Manufacture	900	30	930	3.0
General Engineering	250	20	270	0.9
Building	1,560	10	1,570	5.0
Distributive Trades	2,830	2,590	5,420	17.4
Local Government	1,020	320	1,340	4.3
All Other Industries	8,100	2,590	10,690	34.4
Total General Scheme	25,440	5,670	31,110	100.0

TABLE 21 (c)
THE VALLEYS AND THE WEST CENTRAL AREA

	Percentage of all insured workers engaged in certain trades:			Number of insured women and girls to every hundred men and boys:
	1923	1929	1938	1938
<i>Eastern Valleys of Monmouthshire</i>	—	—	—	7
Coal mining	68	63	47	—
Iron and Steel	9	9	9	—
Tinplate	2.5	4	3	—
<i>Rhymney Valley and Tredegar Area</i>	—	—	—	6
Coal mining	85	83	68	—
<i>Merthyr Area</i>	—	—	—	11
Coal mining	64	59	42	—
Iron and Steel	15	14	4	—
<i>Pontypridd and Rhondda Area</i>	—	—	—	6
Coal mining	87	81	62	—
<i>West Central Area</i>	—	—	—	9
Coal mining	64	58	46	—
Iron and Steel	5	6	6	—
Tinplate	6	7	6	—

though prosperous by Welsh standards, experienced unemployment well above the level for Great Britain as a whole.

There was a considerable improvement in these years in the supply of work for women, apart from work at home or in domestic service. In 1923 there were eight insured women workers aged 14 to 64 to every hundred insured boys and men. By 1929 the figure had risen to little more than nine; almost the whole increase was accounted for by the distributive trades. By 1939 the figure was sixteen, and the number of women in insurable work other than distribution had practically doubled since 1929. But the proportion of insured women in the eastern sector was still far below the national figure of thirty-nine to each hundred men.

(b) *Changes since 1936. Wartime developments.* The Eastern sector of South Wales has benefited considerably since a few years before the war from the action taken to help the Special Areas and from the advantages of Wales as a site for war industries. The National Industrial Development Council of Wales was founded in 1932, and has carried on active work through research, information services, and efforts to promote new industries and to maintain industrial contacts which might be of value to the area. The Commissioner for the Special Areas carried on similar work in the last few years before the war. As a result of the combined efforts of the Commissioner and the Industrial Development Council a trading estate was founded at Treforest in 1936, and six smaller sites were developed later. Down to the end of September 1938 some seventy-two firms were assisted to settle in different parts of the South Wales Special Area,¹ including fifty-one on the Treforest Estate. The main estate provided employment for 2,500 workers shortly before the outbreak of war, and expansion has since proceeded rapidly, though a large part of it has been due to purely temporary wartime development. A number of other new industries were attracted in the last few years before the war without any special financial or other inducements—the most important case was the establishment of blast furnaces, a steel plant, and a continuous strip mill by Richard Thomas and Co., Ltd., at Ebbw Vale, to employ several thousands²—and substantial development has also occurred since war broke out.

¹ The Special Area excludes several districts in the eastern sector—Newport and Cardiff County Boroughs, Neath and Cowbridge Municipal Boroughs, and Porthcawl, Barry, and Penarth Urban Districts—but includes Pembroke Municipal Borough.

² This plant was completed with assistance from what might be called semi-public funds, made available through the agency of the Bank of England; but the prospect of assistance was not the reason for the location of the plant in the area. It was originally intended to build the plant in Lincolnshire; it was sited in Wales in response to pressure from public opinion, expressed (among other ways) in the personal intervention of the Prime Minister. On the significance of this plant for the steel, sheet, and tinplate industries, see below, pp. 122-3.

The new developments have benefited most parts of the Eastern sector, though they have occurred principally in the coastal belt. The Merthyr area, which before 1936 depended almost wholly on coal and iron and steel, has had new developments in hosiery, light engineering, telephone accessories, buttons, jewellery, and several small chemical industries. A large part of the new development is likely to prove permanent, and the persistent decay which was proceeding in this area before 1936 has been stopped. The Pontypridd and Rhondda area formerly depended overwhelmingly on coal. It now has a wide variety of new industries on the Treforest Estate, a number of similar industries on a small site developed during the war at Porth, a large clothing factory in the Rhondda, and works elsewhere making zipp-fasteners, drop forgings, mechanical shovels, and refractories. It is noticeable that the great bulk of the new development in this area (the chief exception is the clothing factory in the Rhondda) has occurred in the South, where the valleys open on to the coastal plain. The Rhymney Valley and Tredegar area has had relatively little new development; on the other hand, even before 1936 it had a certain amount of industry apart from coal-mining, including particularly heavy engineering in the G.W.R. works at Caerphilly and the Powell Duffryn works at Ystrad Mynach.

The eastern valleys of Monmouthshire, on the outer edge of the mining valleys, had in 1936 a greater variety of industries than the valleys of the central block. Even before the opening of the new Richard Thomas works there were steel and sheet works at Panteg and Pontymister, and a sheet works at Pontnewynydd. This was the original home of the tinsplate industry, which was still well established in 1936, and there was some manufacture of finished tin products—tin boxes at Pontnewydd. Other local industries in 1936 included foundries and engineering, chiefly concerned with railway, colliery, and tinsplate mill material; nuts and bolts; steel wire; type-founding; fire-bricks; rag flock; and a heavy boot industry at Brynmawr, founded originally by the Society of Friends to relieve unemployment, and now well established. Much the most important recent development in this area is the new strip mill at Ebbw Vale. Other new industries include steel axles, glass, biscuits, valves, bricks, enamelling and decorating of tinsplate and aluminium, a wartime development in light engineering, and a large Royal Ordnance Factory engaged on shell-filling; the great majority of these industries are outside the valleys on the plain to the east.

In 1936 the West Central area, on the opposite edge of the Survey area, could be divided into distinct industrial districts along the lines already suggested. To the west were the ports, with a considerable iron and steel industry, tinsplates, oil-refining, ship-repairing at Port Talbot, engineering (chiefly in connexion with the tinsplate and

coal-mining industries), copper-refining, and an industry making and decorating tin boxes. To the north of this area was the prosperous anthracite district. The eastern part of the West Central area was more closely related to the central block of mining valleys. The areas of Maesteg, Glyncoirwg, Aberdare, and Ogmore and Garw Urban Districts depended overwhelmingly on dry steam coal-mining, and had very little alternative industry. They were severely depressed.

There has been considerable industrial development in the West Central area since 1936, in a wide variety of trades. New industries which promise to be of permanent value include cables, a plant making low temperature coke and oil from coal, at which development has been only temporarily suspended during the war, aluminium manufacturing, an important new electro-chemical industry, works making tin boxes and other finished tinplate goods, light engineering works, one or two smaller plants, and a large Royal Ordnance Factory at Bridgend. The new works are important in themselves and as means of attracting other industries in future; it is expected, in particular, that other industries will eventually group themselves round the chemical plant. They are even more important because of their distribution. There have been important new developments at Aberdare. In the acutely depressed areas of the Maesteg, Glyncoirwg, and Ogmore and Garw Urban Districts there has been no new development; but the whole outlook for these districts has been changed by the establishment of the Royal Ordnance Factory at Bridgend. These areas have been handicapped in the past both by their own unsuitability for industrial development and by the fact that their natural outlet to the South opens into what was formerly a predominantly agricultural part of the coastal plain twenty miles from Cardiff and ten miles from Port Talbot. The Bridgend Ordnance Factory, situated just below this natural opening, bears the same relationship to the mining valleys here as the Treforest Trading Estate bears to the valleys running north and north-west from it towards Aberdare and the Rhondda. It is large enough to affect a wide area of South and Central Wales; but its chief permanent importance is that it represents a new source of industrial employment in an area which, in addition to being admirably suited for industrial development, is within easy reach of the depressed mining valleys.

The coastal plain of South Wales from Bridgend eastwards to the Wye includes large agricultural areas and two main industrial districts. Down to 1936 Cardiff depended largely on its functions as a port and a regional centre of services and administration. The Cardiff and Barry area had one large steelworks, one colliery, one tinplate works, a certain amount of heavy metallurgy (structural steelwork, heavy engineering, ship repairing, and iron and brass founding), and

a great variety of consumers' goods industries and of firms manufacturing articles such as miners' lamps, cardboard boxes, machine belting, or motor bodies. Newport was principally a metal-working centre, with two steelworks, a tinplate works, and a number of works making finished steel products, including a certain amount of light engineering. There were a number of other industries, and Newport is also an important centre of colliery administration. The Severn Tunnel area had only two manufacturing industries before 1936, constructional engineering and tin-box manufacture; it had no coal mines.

The coastal plain round Cardiff and Newport and to the east has received a substantial amount of development in munition trades, which may well disappear after the war, including engineering, steel and cartridge-case manufacture, and light alloys. The buildings in which these works are housed are likely to be of permanent value to the area. In addition, a number of new small firms at Cardiff appear to have good long-term prospects, and certain military developments on the plain may be of considerable future value to Wales as a whole. There has been a particularly interesting development in die-casting and tool-making, ancillary industries of which the lack was felt in South Wales before 1936. In the Newport area there have been important new developments which may prove permanent, particularly in aluminium-rolling. Farther east, there has been some new development of munition work in the Severn Tunnel area, where a permanent increase of industrial employment might be of value to the nearer mining valleys.

In all, there has been a substantial diversification of industry in the Eastern sector of South Wales, in directions such as electro-metallurgy and light alloys, electro-chemistry, engineering, clothing, and a variety of other consumers' goods industries, as well as some revival in older industries, including particularly the construction of the Ebbw Vale steelworks. Most of the new development has been in the coastal plain; but its benefits have been felt throughout the region. New industrial development has been accompanied by a variety of other gains. The appearance of certain ancillary engineering trades is one small example. More important is an increase in electricity supply which should result in a substantial surplus becoming available for new industrial developments after the war.¹ A further important development has been an increase in the number of women with factory experience. Between 1939 and 1941 the ratio of female to male insured workers rose to near the national figure for 1939, and the actual number of women employed increased greatly. Unemployment has practically disappeared. A limited transfer of workers to other areas, particularly from closed tinplate works, has

¹ The special case of electro-chemical industries is considered below, pp. 126-7.

been at least partly balanced by the immigration of key workers required by the new industries.

(c) *Future Prospects.* A considerable part of the new industrial development seems likely to prove permanent, and in view of this and of the other changes which have occurred during the war it is clear that a long step has been taken towards curing the depression in the Eastern sector of South Wales. Even before the outbreak of war the measures taken by national agencies under the Special Areas Acts and the House of Commons resolutions of 1936, or by local agencies, had put the Eastern sector on the map of the newer industries. Wartime developments have gone some way to complete the process. It has been shown that the Eastern sector of South Wales is an area where a great variety of new industries can be carried on as efficiently as in any part of the country. A large amount of permanent new employment has been created, and the conditions for a further expansion have been established.

The problem is not, however, completely solved. The probability at the moment is that unless additional new industries are introduced there will be a substantial problem of excess unemployment, whose size can be roughly estimated by reference to statistics for 1935. In June 1935 there were 113,000 workers unemployed in the Eastern sector. About 30,000 of these would have been out of work even if unemployment had not exceeded the level in London and the South-east, and a further 15,000 (the estimate is very approximate) may have been out of work for seasonal reasons or because of the exceptional sensitivity of South Wales to the trade cycle—June 1935 was still two years from the cyclical peak in 1937. The real surplus of workers, the number who could be regarded as surplus at cyclical peaks, even after allowing for a small margin of 'general' unemployment equal to the rate of unemployment experienced in London and the South-east, may have been about 65,000 or 70,000. This figure can be taken as a basis for an estimate of the surplus to be expected after the war.

The industries already established in 1935 should provide, at least in good years, as much employment as they did then. The chief possibility of expansion is in building and the trades allied to it. It is estimated that before the war nearly 30 per cent of the insured workers in the Eastern sector were in building and trades more or less closely related to it, so that even if expansion were no greater than in the country as a whole there would be a substantial increase of employment. Expansion should in fact be considerably greater than in the rest of the country, since the eastern part of South Wales is itself one of the areas in which extensive rebuilding is most urgently required. The existing standard of housing and general development in the mining valleys is exceedingly low, and re-development on a

large scale is also likely to be needed on account of the tendency of both mining activity and industry to concentrate in the south of the valleys or on the coastal plain. There is a further possibility of expansion in the service trades and a number of minor industries; employment in these groups increased between 1935 and 1939, and the increase should be maintained after the war. Iron, steel, and tinplate manufacturing form another group in which employment may be greater than in 1935; but in this case the increase would be due mainly to the new works at Ebbw Vale, whose employment is included below in the estimate of the work provided by new industries which have come into the Eastern sector since 1936. Among the steelworks and re-rolling works established before 1936 there are several which are likely to be in a strong position after the war, including particularly the large steelworks at Cardiff and Port Talbot (the latter can, of course, be counted in either the Eastern or the Western sector) which serve a general market and not the specialized needs of the tinplate and sheet trades. There are a number of others, including the older tinplate and sheet works, which are likely to be closed down or to find their employment sharply reduced after the war, as a result either of competition or of planned reorganization and concentration of interests around the main Ebbw Vale works on the lines suggested below in the case of the corresponding industries in the Western sector.

Against these more or less favourable possibilities must be offset the likelihood of a further fall in employment in coal mining. The output of coal in the whole South Wales coalfield, including the West Wales anthracite field, was very sharply reduced during the first years of the war from 37,800,000 tons in 1937 to 27,400,000 in 1941, and there is little doubt that there will be some recovery. It is questionable, however, whether the recovery will be complete in the case of bituminous coal mining in the Eastern sector. Taking into account the deterioration of a number of pits which have been wholly or partly closed down during the war, the shortage of certain classes of officials and skilled labour which is developing as a result of the contraction of entries during the slump of the 'twenties and 'thirties, and other recent developments, it seems probable that after the rush of demand in the first years of reconstruction the Eastern sector will prove to have lost a certain amount of ground in the home market and considerably more in markets abroad. Exports of anthracite may not be less than before the war; exports of bituminous coal, which chiefly concern the Eastern sector, may very well fall. Exports accounted between 1934 and 1938 for about 48½ per cent of the output of bituminous coal in the South Wales field as a whole.

If output is no higher than before the war, and possibly lower, employment is likely to be distinctly less than before as a result of

increased mechanization. The increase in mechanization in South Wales has been limited, since there is considerably less scope for it than in many other fields; the proportion of coal cut by machine in the whole of the South Wales coalfield rose from 18 per cent in 1935 to 24 per cent in 1937 and 27 per cent in 1941, while the proportion mechanically conveyed below ground rose from 32 per cent in 1935 to 40 per cent in 1937, and thence to 53 per cent. This increase, though not enough to bring mechanization in South Wales up to the level of most of the other main fields, is sufficient to have a substantial effect on employment. The Eastern sector will presumably benefit from the immediate post-war demand for coal both in this country and in occupied Europe, and it may be some years before pre-war standards of efficiency and of output per manshift are restored. These things will postpone a fall in employment; but it is unlikely that the postponement can be for more than a limited period.

On balance, employment after the first period of reconstruction in the trades established in the Eastern sector in 1935 should be about what it was in that year; if nothing more than the development in these trades had to be taken into account the surplus of unemployed workers would be of much the same size as then, around 65,000 or 70,000. Between 1936 and the autumn of 1941 work was provided in permanent or probably permanent new industries for 37,000 workers, and it seems probable that the amount of permanent employment in these and other new industries established down to the spring of 1944 will be something of this order.¹ The figure of 37,000 cannot be directly compared with the surplus of 65,000 in 1935, since most of the surplus workers were men, while 40 per cent of the workers in the new industries are women. In 1935 there were 109,000 men and 4,000 women unemployed in the Eastern sector; the new industries employ 22,000 men and 15,000 women. Some allowance must also be made for the increase in the insured population since 1935, including particularly the increase in the number of insured women due to the war. On the whole, it seems likely that the surplus of men affected by excess unemployment a few years after the war will be of the order of 45,000, equivalent to about 13 per cent of the number of men insured in 1939 and 11 per cent of the total insured population. There may, in addition, be some surplus of women if the increase in the supply of industrial work for women proves not to have kept pace with the increase as a result of the war in the number of women seeking it; but this is more doubtful.

¹ It will, of course, be appreciated that this estimate involves a large element of speculation. Reference to later information suggests that the total amount of permanent new employment after the war and its distribution between regions are likely (in the absence, of course, of definite measures to prevent this) to correspond broadly with the impression given by Table 22; but too much reliance should clearly not be placed on this estimate.

TABLE 22

RELATION OF NEW INDUSTRIAL DEVELOPMENT TO PRE-WAR UNEMPLOYMENT

Area	Employment in industries established since 1936 (permanent or with prospects of retention): Sept. 1941		% unemployed, June 1935 Actual	Excess over % unemployed in London and SE.
	No.	% of insured workers in each area in 1939		
Severn Tunnel	500	15	c. 6	— c. 2
Newport	4,900	15	20.0	12.2
Cardiff and Barry	1,600	2	24.5	16.7
Eastern Valleys of Monmouthshire	7,750	11	31.8	24.0
Rhymney Valley and Tredegar	400	1	30.9	23.1
Pontypridd and Rhondda	9,200	13	38.0	30.2
Merthyr	3,550	19	47.5	39.7
West Central	9,000	11	24.0	16.2
	36,900			

Table 22 gives a rough impression of the probable distribution of excess unemployment between different parts of the Eastern sector, on the assumption that the industries established in each area before 1935 give as much employment as they did then, and without taking account of the difference between the demand of different industries for men and women workers respectively. Even on these assumptions, it appears that it is only in the Newport and Severn Tunnel areas that new industries established since 1936 are likely to provide enough work to reduce unemployment to the level of London and the South-east. It is clear that excess unemployment is likely to recur in the eastern sector on a scale which, while smaller than before the war, may be great enough to give a good deal of trouble. There are a number of lines which action to deal with this problem might take.

(d) *Possible Policies.* In the first place, it must be recognized that there are certain potentially depressed mining areas which are unsuitable for new industries, and which should be dealt with either by evacuation of their population to new towns or by providing new industries in more suitable areas, but within travelling distance of the older towns. Most of the areas affected are near enough to sites suitable for industrial development to make it possible to combine

both methods, allowing people who are attached to their original districts to remain in them and to travel to work each day, and at the same time bringing about a gradual transfer of the population to new towns.

Outside these districts the long-term possibility of unemployment can be met either by a continuation of the efforts made before the war to persuade new industries to settle in each area or by a combination of this policy with the policy of building up new industrial centres on the most suitable sites—usually at the valley mouths—and concentrating population around them. The measures applied to encourage new industries will need to be considerably stronger than before the war, since the rate of new development before 1939 was in any case too slow, and without the threat of war and the advantages of South Wales as a relatively safe area would have fallen far short of any rate which will be tolerable in future. The experience of the North-east Coast, which appeared before the war to be strategically the most exposed of the Special Areas, is some guide to the value of the threat of war to the less exposed areas in South Wales and Cumberland.

While efforts to promote a widespread development of new industries should be continued, events during and before the war have indicated a number of sites which would be particularly suitable for new towns and industrial centres. The possibility of making permanent use of the Royal Ordnance Factory at Bridgend has been mentioned. This factory may or may not be needed for munition manufacture after the war; if the whole or part of it is released, use might well be made of the existing services and (so far as is practicable) of the buildings to develop a new trading estate. Whatever the future form of production, Bridgend is admirably suited for the establishment of a new industrial town. At the other end of the Survey area a new town and trading estate might be established at Pontypool Road at one of the natural outlets of the eastern valleys of Monmouthshire, and not far from an existing Ordnance Factory which is unlikely to be suitable for peace-time use. There are further possibilities of new development at Cardiff and Newport, either by the establishment of trading estates or by utilizing the large war factories in these areas which may not be required in future. Apart from preventing local unemployment, new industries both at Cardiff and at Newport might provide work either directly or indirectly for a certain number of workers from the mining valleys. A number of Cardiff workers have in the past travelled to Treforest and other developing areas; if this became unnecessary in future, the amount of industrial work available near their homes for men from the mining valleys would be correspondingly increased. In addition to these possibilities of entirely new development, some further growth

of new industries might well be promoted at Treforest. A further possibility would be to maintain and extend the development which has taken place during the war in the Severn Tunnel area. It would be justifiable to maintain the present relatively small employment there; it is doubtful, on town-planning grounds, whether additional industrialization should be encouraged. A final suggestion which has been made in the Eastern sector is for the establishment, using wartime developments, of a base for transatlantic flying.

A large fraction of the industries to be attracted to the sites suggested would presumably be of the same miscellaneous types which were being drawn into South Wales before the war. There are in addition two main directions in which it should be possible to develop industries more or less directly linked to the existing industries of the Eastern sector. One is in connexion with the expansion of building; it may well prove that the best opportunity for rapid utilization of the sites suitable for new development will lie in the establishment of industries supplying materials for the post-war building programme. The other is the possibility of establishing industries based on coal. The possibility of industries making plastics, smokeless fuel, and other derivatives, is being carefully examined by the National Industrial Development Council of Wales and Monmouthshire; and, while a great deal of research and experimental development is still required before the full possibilities of industries of this type can be realized, the ultimate prospects for development on these lines in the Eastern sector should be excellent. Something is said below (pp. 126-7) on one group of industries of this type with which a promising beginning has been made in the West Central area.

If full advantage is to be taken of the opportunities of new development in the Eastern sector of South Wales careful attention will have to be given to the problems of housing and planning, particularly in order to check a tendency noticeable before the war, and greatly exaggerated during it, for the separation of homes and places of work to increase. Experience at the Treforest trading estate during the war has illustrated the type of problem which will have to be solved. The estate was originally intended to draw workers from the mining valleys, and no new town was built near it. During the war this has proved a disadvantage not only to local workers, but also to the key men brought into the area in connexion with new industries. Considerable difficulty is likely to be experienced after the war in retaining the vitally important services of these men, in view both of their dislike of long journeys to and from work and of the unsatisfactory living conditions and lack of social amenities—as compared, say, with London or Birmingham—in many of the areas where they have had to live. The need for re-housing and the provision of good

social amenities near places of work will arise after the war at several other places besides Treforest. Satisfactory correlation between economic and other forms of development should not be difficult, since industrial development can be largely guided by the establishment of trading estates and by other measures of persuasion, while the comparatively small number of coal-owners involved should be able to predict the future direction of mining development with some accuracy.

Attention will also have to be given to the need for ancillary industries such as die-casting—lack of ancillary services of this kind has been a definite handicap in the past in attempting to attract small manufacturing industries which cannot conveniently provide these services for themselves—and to the public utility services. In view of wartime developments electricity supply should present no problem, apart possibly from the special requirements of electro-chemical industries, and the same is true of gas. If a new industrial centre is started at Pontypool Road the existing water-supply is likely to prove inadequate; but this is the only area in which a serious shortage is likely. The main need is for better transport service. On the railways faster local services are needed; the present slow services are largely responsible for what one report calls the 'invisible line across mid-Glamorgan beyond which industrialists are reluctant to go'. Electrification would probably prove to be the main step towards a solution. There are also bottlenecks on the main lines at Newport and the Severn Tunnel. Better roads are needed inside the area; but the chief need for road transport is a Severn Bridge. It is estimated that a bridge at English Stones would save two-thirds of the time at present taken on journeys from Cardiff to Bristol, and would make substantial savings in the time taken on journeys to London and the Midlands; it would therefore add considerably to the attractions of South Wales as a centre for light industries dependent on close contact with a market. It might incidentally help to solve two other problems. The combination of a railway bridge with the road bridge would relieve the bottleneck at the Severn Tunnel, while the possibility of rapid transport to Bristol would make it easier than in the past to find suitable shipping facilities for exporting the light goods of small bulk produced in the Survey area by new firms (particularly refugee firms) with international connexions. The South Wales ports and the shipping services which use them are chiefly equipped for handling heavy and bulky goods.

Whatever action is taken to improve the development of the Eastern sector of South Wales and to introduce new industries, it must inevitably be some time before an adequate amount of new industry is brought into existence. The comment of the Welsh Reconstruction Advisory Council that:

'It cannot be too strongly emphasized that practically all the most valuable projects and suggestions for substantial new industries which have been brought to the notice of this Council are not in a position to be put into immediate operation on a commercial scale, but are dependent upon the carrying out of extensive research on a scale far greater than anything yet attempted in our region,' (Welsh Reconstruction Advisory Council, First Interim Report, 1944.)

applies to all Wales; but it applies with particular force to the Eastern sector of South Wales, in view of the potential importance to this area of the plastics and electro-chemical industries and of other new industries based on the scientific utilization of coal. Quite apart from this, and from the probability of temporary unemployment during the first months of readjustment, there is a danger that even a generally effective policy for stimulating and guiding new enterprise may not be sufficient to prevent a certain amount of unemployment from arising after the first rush of reconstruction demand, and possibly even during the reconstruction boom itself. To some extent this problem might be met by special measures to maintain or increase production in the older industries of the Eastern sector. Mining output might be maintained by a continuation (in one form or another) of the measures taken during the war to promote the use of Welsh coal in English markets, the expansion of the local building industry might be accelerated, and the heavy industries of the coastal district might be assisted in connexion with schemes of overseas development. It is doubtful, however, whether enough can be done by measures of this kind. A substantial amount of the existing wartime employment in Wales is in munition industries of a type which are unlikely to continue on any large scale in peace-time, and which cannot be directly adapted for peace-time purposes; and for many of the workers concerned there is literally no alternative employment. Something may be done, especially in the period of transition after the collapse of Germany, by concentrating in the areas affected in this way such munition production as still continues; but this is only a limited and temporary resource. The only effective solution is to give areas of this kind an altogether exceptional priority in the location of new industries in the first year or two after the defeat of Germany. A possible alternative, the temporary recruitment of workers from these areas for employment elsewhere during the post-war boom, would undoubtedly meet with too much local resistance to be practicable; there would inevitably be a suspicion that temporary migration of this kind would tend to become permanent and to serve as a substitute for an efficient control over the location of new industries, and in view of the strength of Welsh

national feeling the resistance set up would probably be too great to be overcome.

In view of the very wide scope of the development needed in the Eastern sector of South Wales it is particularly important in this area that there should be effective and comprehensive planning. The National Industrial Development Council for Wales, which represents both local authorities and industrial interests, has in the past done valuable work in the economic planning and development of South Wales as a whole, and it is highly desirable that this work should continue. But more than economic planning is required; a comprehensive overhaul and re-shaping of the whole development of this area and of industrial South Wales as a whole is necessary, and for this purpose an authority is needed with executive powers to co-ordinate economic planning with what in the past have been the more familiar aspects of work under the Town and Country Planning Acts, as well as with positive development in fields such as housing, transport, or other public utilities.

THE WESTERN SECTOR OF INDUSTRIAL SOUTH WALES

(a) *The Pre-war Position.* The Western sector depended before the war chiefly on two groups of industries, coal mining and the tinplate, sheet and galvanizing trades, with the steelworks supplying their raw material. Coal mining in this area is predominantly anthracite mining, which accounted for about five-sixths of all miners employed before the war in the area to the West of and including the Neath and Dulais Valleys. There was no decline in either anthracite mining or the tinplate and sheet groups in any way comparable to the collapse of employment in bituminous coal mining in the Eastern sector of South Wales, and accordingly the Western sector never experienced the same acute and widespread depression. Part of the West Central area, which can be included alternatively with the Eastern or the Western sector, was severely depressed and was included in the South Wales Special Area. Apart from this district, unemployment in good years in most parts of the Western sector was well below the level common in South Wales, and in the anthracite-mining area was often actually below the level for Great Britain as a whole.

In spite of this relatively favourable situation the economic condition of the Western sector gave some reason for anxiety. Employment in anthracite mining, after showing remarkable stability during the worst years of the slump, fell towards the end of the 'thirties. Employment in tinplate manufacturing failed to regain the peak of 1928. A substantial increase in employment in other industries and services was partly offset by a heavy fall in employment in the comparatively small bituminous-mining industry.

TABLE 23

PERCENTAGE OF INSURED POPULATION IN EACH INDUSTRY IN CERTAIN DISTRICTS: WESTERN SECTOR OF INDUSTRIAL SOUTH WALES

1929	Iron and steel smelting and rolling	Tinplate	Coal	All other industries and services
SE. Carmarthen .	7.2	18.5	42.2	32.1
Swansea area .	6.5	20.2	18.4	54.9
West Central area	6.3	7.0	58.3	28.4
Total . . .	6.6	14.4	39.7	39.3
1938				
SE. Carmarthen .	8.4	13.7	29.9	48.0
Swansea area .	5.6	16.8	13.7	63.9
West Central area .	6.3	6.4	46.1	41.2
Total . . .	6.5	11.9	30.0	51.6

TABLE 24

AVERAGE ANNUAL LOSS OF POPULATION BY MIGRATION (NET BALANCE), 1921-38

Losses in 1921-31 are expressed as a percentage of 1921 population.

Losses in 1931-8 as a percentage of population in 1931.

	1921-31	1931-8
SE. Carmarthen	0.33%	0.91%
Swansea area	0.29%	0.83%
West Central area	0.74%	0.86%

Unemployment in the coastal area and some inland districts remained persistently high, and the rate of loss of population by emigration actually increased during the 'thirties, when the net rate of loss in most other depressed areas fell. The rate of net loss increased even in the western part of the West Central area, where employment in anthracite mining was rising.

The threat of increasing depression which these symptoms implied became an immediate probability in the last months before the outbreak of war, when the new strip mill at Ebbw Vale came into full operation. The new strip mill represented a revolution in British methods of sheet and tinplate manufacture, and threatened to render obsolete a large part of the existing equipment in the Western sector and to throw a high proportion of the workers in the tinplate and allied industries out of work. This threat has been postponed by the war, but will reappear within a year or two of the end of hostilities.

There were a number of other less urgent problems before the war which are also likely to recur afterwards. The Western part of South Wales provided before the war even less employment for women than the East; there were fourteen insured women workers in the

Western sector to every hundred insured males, against sixteen in the Eastern area. There were also a number of unsolved planning problems, including particularly the problems of travelling and ribbon development arising out of the shift of mining. Substantial numbers of miners (about 2,000 in 1938) travel into the Neath Valley, where anthracite mining was expanding before the war, from points up to sixteen miles from the pits, and similar conditions are found in parts of South-east Carmarthen.

The Western sector, like the Eastern sector, is divided into distinct industrial areas by the hills which run down towards the sea; the West Central area, the Swansea Valley, and South-east Carmarthen. More important is what might be called the horizontal division, along a line running roughly from east to west, between the metallurgical area on the coast and in the lower parts of the valleys and the anthracite mining area to the north. There are a few tinplate and sheet works in the anthracite area, particularly at Ystalyfera and in the Amman Valley; but the works in the Amman Valley were closed before the outbreak of war, and for practical purposes the two areas can be regarded as distinct. It is this division which is most useful for discussing the future of the area.

(b) *The Future of the Anthracite Belt.* The position of the anthracite mining area from Kidwelly to the Neath Valley was surveyed immediately before the war by Mr. A. E. C. Hare,¹ and nothing has happened during the war to invalidate the main conclusions which can be drawn from his work. Employment in anthracite mining remained consistently at a level of round 26,000 for many years before the war, rising rather higher about 1933 and then declining again. Unemployment was far lower than in other mining districts; the highest proportion of unemployment among anthracite miners recorded in June of any year between 1932 and 1938 was 14 per cent, and the proportion was below 10 per cent in 1932, 1933, 1937, and 1938. This favourable record of employment is likely to continue.

It is true that there is considerable scope for improved methods of production. Development was proceeding before the war more slowly than might have been desirable, as a result of financial difficulties due to over-capitalization at the time of the formation of Amalgamated Anthracite Collieries, Ltd., the leading firm in the area, and output per man-shift was unnecessarily far below the national average for all types of mining. It appears to have risen from between 15 and 16 cwt. in 1936 to 17 cwt. in 1939, and could undoubtedly be improved further. Allowance must also be made for the possibility that some export markets may be lost. About 60 per cent of the output of anthracite was exported before the war,

¹ *The Anthracite Coal Industry of the Swansea District*, Social and Economic Survey of Swansea and District, No. 5, 1940.

TABLE 25

EMPLOYMENT AND UNEMPLOYMENT IN ANTHRACITE MINING:
WESTERN SECTOR OF INDUSTRIAL SOUTH WALES

The percentage unemployed is estimated from figures obtained from a number of exchanges in the anthracite area; 22,900 miners were recorded as insured at these exchanges in 1938.

	No. employed, December	% unemployed, June
1923	25,868	*
1925	30,158	*
1928	25,062	*
1932	27,429	8.9
1933	29,132	9.9
1934	28,667	12.2
1935	26,988	11.6
1936	26,299	14.1
1937	26,423	8.1
1938	27,029	6.6

* No figure available.

From A. E. C. Hare, *The Anthracite Coal Industry of the Swansea District*.

including a large quantity shipped to newly acquired markets in Canada; these markets were acquired largely at the expense of United States producers, who in the years between 1936 and 1939 were making a concerted effort to regain their markets, and with considerable success.

Against these possibilities of loss must be offset the proved capacity of anthracite for regaining export markets after any temporary disturbance; examples are the recovery after the General Strike of 1926 and, on a smaller scale, the recovery of the Italian market after the sanctions period. Recovery might be accelerated by various reforms, including improved grading and improved equipment at the ports in the Western sector. There are also substantial possibilities of expansion in the home market. The biggest home market is for use in central-heating plants and domestic boilers and stoves. Post-war building programmes, like the building boom in the early 'thirties, are likely to increase the demand for anthracite in these directions; the fact that large numbers of consumers have been introduced to anthracite for the first time during the war may be of some assistance. A second direction in which sales may expand is in market-gardening; market-gardeners in the Channel Islands as well as in Great Britain have for many years been among the largest consumers of anthracite, and a policy of increasing the supply of protective foodstuffs in Great Britain would incidentally help anthracite mining. It has been suggested in the Western sector that a large local market of this kind might be created by developing market-gardening in the Gower Peninsula, the Gwendraeth Valley, and the

Ammanford district. A third market which was developing just before the war was for anthracite duff. Duff is the small coal produced in the screens and wasteries of the anthracite pits in the course of breaking down large coal into the sizes required by particular markets; it may amount to between 20 and 30 per cent of the total tonnage raised from the pits. For many years a large amount of anthracite duff had to be treated as waste and dumped. In the last years before the war several collieries, the Tir John Power Station of the Swansea Corporation, and two local steelworks began to burn duff, and there have been further developments during the war. In addition to this direct demand for duff it might be possible to re-develop the market for briquettes bonded with pitch and containing a proportion of steam coal.

The main problem in the anthracite area is likely to be not so much a fall in employment as a shift in its location. Between 1921 and 1938 the number of miners employed in anthracite mines in the Neath and Dulais valleys rose from 4,900 to 11,600, while in the same period the number employed in the valleys above Swansea and in South-east Carmarthen fell from 19,500 to 15,000. The cause of the shift was partly a change in the character of the market—the demand from the growing Canadian and domestic markets was principally for small-sized second-grade anthracite, which comes chiefly from the East of the field—and partly the age of the pits in the West and the increasing difficulty of obtaining coal from them. These causes will still operate after the war. The shift raises important planning problems, including the problem of travelling which has already been mentioned. It may also be a cause of unemployment, since there is no guarantee that men dismissed in the west of the field will be re-engaged in the east. A large number of the men taken on in recent years in the anthracite mines of the Neath Valley come from bituminous-mining districts such as Aberdare or Merthyr Tydfil. While unemployment in the anthracite districts generally has been low, it has been high in parts of the Upper Swansea Valley and South-east Carmarthenshire, where pits have closed. These areas incidentally include the districts affected by the closure before the war of the tinplate and sheet works in the Amman Valley. They are also—as, indeed, is the whole anthracite belt—areas in which there is an exceptional shortage of paid work for women. The difficulties which have arisen in these areas in the past, and which may arise again in future, are not on the same scale as the problems of the depressed mining valleys of the Eastern sector; they are nevertheless serious enough to deserve careful attention.

It is obvious that any measures taken to improve conditions in the eastern part of South Wales would help to limit the influx of bituminous coal miners into the anthracite-mining area, and so to

make it easier to deal with the eastward shift of anthracite mining. From this point of view industrial developments during the war in the West Central area may be of great importance. There are no new industries in the anthracite area in South-east Carmarthen or above Swansea; the tinsplate and sheet works closed down in this area have been used for storage or left vacant. In the West Central area there is a considerable amount of new industry, to which reference has already been made in the section on the eastern part of South Wales. As was there emphasized, the new industries which have come into the West Central area and neighbouring districts since 1936 are not yet sufficient to prevent the reappearance of severe unemployment after the war. At the same time, they are sited in such a way as to be of great value to many of what are potentially the most severely depressed districts, and they carry with them the possibility of considerable further developments.

(c) *The Future of the Coastal Area.* The prospects of the coastal districts of the Western sector, which depend overwhelmingly on the inter-connected group of steel, sheet, and tinsplate industries, appear at the moment decidedly unfavourable. A rough impression of the relative importance of these industries can be obtained from figures of pre-war employment. About 22,000 workers were normally employed in the tinsplate industry, 3,500 in the steel sheet and galvanizing trades, and 7,000 in steelworks. The normal output of the steelworks in the Western area was about a million and a quarter tons of ingots a year. Ninety per cent of this was supplied to the tinsplate and sheet industries, which, since the introduction of tariffs and quotas in the early 'thirties, had come to depend almost entirely on local steel production. Only one of the steelworks in this area, the Guest, Keen, and Baldwin works at Margam, near Port Talbot, in the West Central area, did not produce mainly for the tinsplate and sheet industries before the war.

The steel, sheet, and tinsplate industries in the Western sector are closely linked financially and in organization, as well as by dependence on each others' products. Of the total tonnage of steel supplied by local works to the tinsplate and sheet industries in the Western sector before the war, about 66 per cent normally went to tinsplate and sheet works directly owned by the steelworks companies; a further 25 per cent was supplied to tinsplate and sheet works associated with the steelworks, or allied to them, and no more than 9 per cent was supplied to independent concerns. The most important independent tinsplate works supplied special markets; two, for example, were associated with enamel-ware and metal-box manufacture, while a third supplied plates for oil drums for the oil-refining industry at Llandarcy. The largest single group of steel, sheet, and tinsplate works was controlled by Richard Thomas and Co., Ltd., and included

six steel works in the Western sector, twenty-three of the sixty-three tinplate works in the Western sector, and four sheet and galvanizing works with a capacity of thirty-two mills out of sixty-nine mills in the whole region.

The problem arising in these industries is due more to a change in technique than to any danger of a decline in output. In the short run there is every reason to expect a boom; the danger is not so much that demand will fall short as that the boom may be carried too far, and that obsolete works may be brought back into production, collect a labour force, and then embarrass the industry by their existence when the first period of reconstruction is past. Prospects of maintaining output in the long run are also on the whole favourable. It is true that in certain directions a contraction in the market for the products of these industries is to be expected. Export markets may not absorb as much as before the war, even if the quality and price of Welsh production are improved. In the case of tinplate:

'Regard must be had to certain adverse long-term factors. The war has greatly accelerated the degree of industrialization in the Empire countries which were forming an increasingly important part of the overseas market for Welsh tinplate. Much of the Canadian market has probably been lost, and large-scale developments in the steel industry of Australia will probably close that market for ever. Before the war Russia was approaching self-sufficiency, and Japan was increasing its own production. In European and other markets similar tendencies were discernible, and will operate with increased force after the war, particularly when the first replacement is over. The competition of the United States need not greatly affect a *modernized* Welsh industry, because, although its output is probably four times as great, many of the works are less favourably placed for export than are those of South Wales.' (Report of the Welsh Reconstruction Advisory Council, 1944, p. 51.)

In the case of steel sheets there may well be similar difficulties, as there were before the war. The possibility of a decline in exports is clearly a serious matter, since slightly over half the total output of the British tinplate industry was exported before the war, and the proportion in the case of certain other products in this group was even higher—about three-quarters in the case of galvanized sheets. Fluctuations in the tinplate industry in the 'twenties and 'thirties (leaving out of account long-term trends) were very much more closely correlated with changes in export demand than with developments in the home market.

On the other hand, there is every reason to expect a continued rise in demand from the home market. A sharp decline in exports

of tinplates, terneplates (plates coated with a mixture of tin and lead) and blackplates (the uncoated steel sheets which are the raw material of the tinplate industry) between 1929 and 1937 did not prevent a rise in the British output of these products from 880,000 to 955,000 tons over the same period. Demand from the motor industry, which uses very large quantities of terneplates and steel sheets, should be considerably greater in future than before the war. The demand for terneplate and steel sheets in the manufacture of builders' materials and household accessories should also increase. Developments during the war do not yet appear to have produced a material for packing food which could compete effectively with tinplate in time of peace, though the future developments of plastics (itself, of course, an industry suitable for establishment in South Wales) and of light metals needs to be watched; for the moment, it seems probable that there will be an increased demand for tinplate from the food canning industry. While the influence of these developments on different sections of the tinplate and steel sheet industries will naturally vary considerably, it may well be that for the group as a whole the rise in demand in the home market will outweigh (perhaps considerably) the possible decline in exports—provided, at least, that the British tinplate and sheet industries remain abreast of modern technical developments.

It is in this question of modernization that the crux of the present difficulty of the Western sector of South Wales lies. The traditional method of making steel sheets or blackplates is in a comparatively small works, which buys steel bars from a steelworks, turns the steel bar into a 'pack' of up to eight superimposed sheets by heating the bar, rolling it, folding it over, and then repeating the process, and finally puts the sheets through a number of finishing processes—cleaning, annealing, and cold-rolling. The size of a typical mill is illustrated by figures for the tinplate industry in the Western sector. Most of the sixty-three works which existed at the outbreak of war employed between 200 and 500, and their average output in a good year was round 250,000 to 300,000 boxes, or perhaps 13,000 tons. The capital invested in them was relatively small. A typical tinworks might originally have been founded by a group of local tradesmen and property-owners combining to raise £5,000 or £10,000 by subscriptions of a few hundred pounds apiece; it is estimated that the entire tinplate industry of the Western sector, which contained before the war 80 per cent of the tinplate manufacturing capacity in Great Britain and contributed about the same proportion of total output, was built on a capital of about £5 millions.

The new Ebbw Vale works is an entirely different proposition. The capital invested in it is estimated at £12 millions. Its potential output of tinplate may be of the order of 5,000,000 boxes a year,

as compared with an output of 20,500,000 boxes from the whole British tinplate industry at the peak of 1937, and probably about 17,500,000 from the Western sector of South Wales. It is completely integrated, carrying out all stages of production from iron-ore to the finished sheets and tinplate. It produces a continuous strip of steel, in lengths of up to 1,500 feet, instead of a 'pack' of comparatively small sheets—hence the name of strip mill—and this strip is of decidedly higher quality than the products of the older mills. In particular, Ebbw Vale steel sheet and tinplate is capable of competing in export markets with high-quality American products, and is very much more suitable than the products of the traditional processes for use in the motor industry. It is also very much cheaper, so long at least as the new plant can be run at something approaching full capacity; it is estimated that, in view of its very high overheads, the Ebbw Vale plant cannot work economically at less than 70 per cent of capacity. The new process also involves the elimination of a good deal of very heavy work in tinplate and sheet manufacture.

There is no question of the superiority of the new process, or of the success of the Ebbw Vale works in particular; the new wide strip mill making steel sheets at Shotton, to which reference has already been made, has also been highly successful. No doubt, since the new strip mill cannot fill the whole of the market, some arrangement could be made under which the older plants would be allotted a quota of production and the products of the new mills would be used primarily for those markets where the demand for cheap high-quality sheets or tinplate was most urgent. As is suggested below, something on these lines may be desirable as a temporary measure, to tide over a period of transition; but any prolonged reliance on arrangements of this kind would be contrary to the public interest. The future of the tinplate and steel sheet industries clearly lies in the introduction of strip mills, and the only serious question is where and when.

On the question of location, there are three main considerations. In the first place, it is clearly desirable, wherever possible, to site the new works in the areas most dependent on the older works which have become obsolete, in order both to take advantage of the accumulated skill of these areas and to avoid the break-up of flourishing communities. Secondly, it appears to be agreed that the degree of integration and the scale of operations attained at Ebbw Vale are not essential to the success of strip-mill production. It does not appear to be necessary or even desirable that integration should in all cases extend back to the blast-furnace stage; in view of the large volume of scrap likely to be available for as far ahead as can be foreseen, and of its probable price, it should be sufficient to begin integration at the steelworks, making steel largely from scrap in the

way hitherto usual in Wales. Again, a mill of the size of the Ebbw Vale works, with its very heavy overheads, is not necessarily the most economic. It may be possible to ensure steady production for the home market; but fluctuations in export markets can scarcely be avoided, and so long as fluctuations occur a smaller type of mill with lower overheads may be equally or more economic on the average of good and bad years together. Thirdly, it seems to be practicable to make use of some of the older plants for the finishing processes of the tinplate and sheet industries—as, indeed, is already done to a limited extent at Ebbw Vale.

In view of these considerations, the Welsh Reconstruction Advisory Council have suggested the establishment of four strip mills in the areas of the Western sector of South Wales which are likely to be most severely affected by the closing down of older plants. Considerable use could be made of existing plants, and the establishment of four entirely new mills would not be necessary. The Briton Ferry Steel Company installed a few years before the war a universal mill capable of being adapted for strip production, and the Llanelli Steel Company have also installed a modified strip mill; use could be made of these facilities and possibly of plant at other steelworks, as well as of the equipment for finishing processes available in the older steel sheet and tinplate mills. Reorganization on these lines would involve a considerable reshuffling of the interests of the present owners of the tinplate, steel, and steel sheet industries in the Western sector, which at present are geographically intermingled, and it appears that there may be some difficulty in obtaining the necessary agreement. From a social point of view special consideration should naturally be given to the interests of the workers in the older plants, and discussions on this have been proceeding during the war between employers and workers in the tinplate trade. It is of the greatest importance that the reorganization of the steel, steel sheet, and tinplate trades should proceed as nearly as possible by general agreement, since developments even during the war have shown that this issue may lead to a degree of friction between the different interests and between the Eastern and Western sectors which might in peace-time work to the serious disadvantage of South Wales as a whole.

A solution on these lines would evidently agree best with the public interest; but it must be recognized that acute difficulties would be caused in the western sector. Local estimates suggest that the introduction of strip mills and the accompanying modernization of other processes of tinplate production might throw out of work perhaps 12,000 of the 29,000 workers employed before the war in the tinplate and steel industries. Adding in a certain surplus of workers in this and other trades which existed before the war, it

appears that if the leading industries of the Western sector of South Wales were efficiently reorganized it would be necessary to find new work for something of the order of 20,000 workers previously engaged in industry—taking no account, that is, of the need in all parts of the area for additional work for women who before the war were not normally employed in insurable occupations. Twenty thousand workers are equivalent to about 13½ per cent of the pre-war insured population. It should be remembered that this figure represents a surplus in the sense of persistent excess unemployment; it excludes 'general' unemployment, and the specially severe cyclical unemployment to which parts of the metallurgical area of the Western sector have been liable in the past.

It is, of course, possible that a partial solution might be found by emigration; several thousand tinplate workers have been transferred during the war to work in the Midlands, and many of these might not return to South Wales if work were not available. In view of the strength of Welsh national traditions this is clearly undesirable except as a last resort. It would be preferable to find work for South Wales men in their own area; and there are a number of directions in which development might be possible.

One, in which there has been some development during the war, is the manufacture of steel for ordinary markets, as apart from tinplate and sheet bars. An experiment of this kind after the last war came to nothing. After the present war there should be more hope of success, since there is now in the Western sector plant for making special steels, which should be better able to stand the cost of carriage to other parts of Great Britain than the cheaper qualities made previously. The possibilities of development in this direction evidently depend largely on the policy followed after the war by the steel industry as a whole.

A second possibility would be to develop the existing non-ferrous metal manufacturing industries, which at present form the most important group in the area after coal and the steel, sheet, and tinplate industry. Nickel, copper, and zinc were smelted before the war, and light metals have been added during it. Linked both to this and to the tinplate industry is a third possibility, of extending and developing the manufacture of finished articles from tinplate, steel sheet, and light metal. A considerable amount of manufacturing of this kind was carried on in the Western sector before the war; enamel-ware, enamelled builders' materials, tin boxes, oil drums, miscellaneous hollow-ware, and a variety of pressed and spun articles were all made. The greater part of the tinplate and other semi-finished products made in the Western sector were, however, shipped abroad or sent to the Midlands or other parts of the country for manufacture into finished articles. It should be possible after the

war to extend the market for the products already made—the market for enamelled builders' goods should be particularly favourable—and a number of new types of product could be added. Aluminium hollow-ware is one obvious possibility; a second, also suggested by developments during the war, is motor pressings. Some use might be made for these industries of the new works built during the war.

There has been a certain amount of development during the war in light engineering and related trades, though less than might have been expected; it has proved impracticable to make much use (except for storage) of the tinplate works closed since 1941. It is possible that some of the limited increase in light engineering employment may prove permanent. Industries of this kind might be particularly valuable, as they have been during the war, as means of providing employment for women. The western part of South Wales has no light engineering tradition, and the successful permanent development of light engineering industries would require very careful planning. It is suggested locally that Royal Ordnance Factories and certain other munition works in this area might be developed as trading estates catering for all types of industry, but with special reference to the metal industries. The availability of estate workshops would go some way to remedy the lack of ancillary industries which is as noticeable in the Western sector of South Wales as in the East. The workers transferred from the Western sector to the Midlands during the war have in many cases acquired skill, or at least experience, in the engineering trades and in foundries; the skill and experience which they would bring back could be supplemented, to a greater extent than in the past, by the development of training courses under the auspices of the University and the Technical Colleges.

The *Second Industrial Survey of South Wales* suggested that, in view of the possibility of generating electricity extremely cheaply in the South Wales coalfield, a special trading estate might be set up to group round a power station a number of electro-chemical and electro-metallurgical industries which require exceptionally large amounts of current:

'The manufacture of calcium carbide, the reduction of chrome ore to produce various grades of ferro-chrome, the reduction of the ores of certain other metals hitherto imported which in the process of manufacture require very high temperatures, the production of certain abrasives and the production of fused silica are examples of the kind of manufacture we have in mind.' (*Second Industrial Survey of South Wales*, Vol. III, p. 297.)

Though this particular suggestion was never adopted, a number of the industries proposed have in fact come into the Western sector

of electro-chemical industries during the war might well serve as a centre for further developments in future, including both further electro-chemical industries and types of chemicals for which no special supply of electricity is needed. There was a certain amount of chemical manufacturing in the Western sector before the war, particularly in connexion with zinc smelting. If the establishment of any large amount of new electro-chemical or electro-metallurgical industry in South Wales appears probable the idea of a special trading estate might well be reconsidered. In 1938, in the words of the Welsh Reconstruction Advisory Council, it was 'rejected after somewhat casual examination by the experts of the responsible departments'. There appears to be some reason to doubt whether the full economies in power production for this type of industry which are possible in South Wales can be obtained without a special power station and estate, and the suggestion deserves more careful examination.

Further possibilities are the development of agriculture, particularly of market-gardening in the Gower Peninsula, and of the tourist trade. Neither of these possibilities can be of great direct assistance to the industrial areas of the Western sector; but they might well make a useful indirect contribution. Of more direct value would be a further expansion of the service industries, which can probably be expected in any case. There should, in addition, be the same substantial increase in employment in building as in other areas.

As in the Eastern sector, certain improvements in public utility services and planning organization are necessary if full advantage is to be taken of the opportunities of new development. The Severn Bridge would be of value to the Western sector, as well as to the East, and a bridge across the lower Neath river is also desirable in order to eliminate the present transport bottleneck in Neath town. The Western sector would also gain from an improvement in communications with the Midlands and North by the double-tracking of the railway from Swansea to Shrewsbury through Central Wales, the introduction of express services on this line, and the improvement of road communications through Central Wales. On the side of planning machinery it has been suggested locally¹ that a Development Committee on the model of the National Industrial Development Council of Wales and Monmouthshire, including representatives of local authorities and of local industries, services, and professions, should be formed to cover the Western sector. In view of the invaluable work done for the Eastern sector before and during the war by the National Industrial Development Council of Wales and Monmouthshire, there is no question of the potential value of machinery of this sort; but it is not altogether easy to see why the object of the proposal should not be better attained by bringing into

¹ In the first report of the Industrial Development Committee of the Rotary Club of Swansea.

the National Industrial Development Council the local authorities and interests in the Western sector which are not already represented in it, and so establishing a single organization for the whole of industrial South Wales.

It is clear that there are great possibilities of new development in the Western sector. At the same time, it may perhaps be doubted whether these possibilities are sufficient to enable all the men who might be thrown out of work by technical improvements in the steel and tinplate industries (or by changes in the demand for steel sheets and galvanized products) to be reabsorbed for several years after the war. One minor consideration is that some of the smaller trades in the Western sector may continue to contract. Bituminous coal mining is perhaps the outstanding case; employment west of the Neath Valley fell from 13,000 in 1913 to 5,000 in the late 'thirties, and there is a strong possibility that, as a result of the progressive exhaustion of many of the pits, there will be a further fall after the war. More important is the fact that, as in the Eastern sector, the fraction of wartime and immediately pre-war industrial developments in the area which can be expected to be permanent is too small; the new employment created is not yet great enough to fill the gap, and time is needed to allow new industries to grow.

The transitional measures required should not be excessively difficult to apply. As has been stressed, the Western sector can look forward to a post-war boom. Even when the boom is over, the reorganization of the tinplate, steel, and steel sheet industries may not proceed rapidly; and, whatever its speed may tend to be, it should not be difficult to regulate. What happens in these industries in the Western sector—the exact moment at which obsolete plants are closed down or new plants opened, the policy pursued over prices and production quotas, and so on—depends primarily on the attitude of the group which controls Richard Thomas and Co., and secondarily on the attitude of the other leading steelworks in the Western sector. The Government, acting on and through the organs of the steel industry, as well as directly on the firms concerned, should be able to guide the policy followed in the Western sector with considerable effect. Besides representatives of the steel industry, the group which controls Richard Thomas includes representatives of the Bank of England; this should provide a further channel through which official policy could make itself felt in South Wales.

The appropriate policy would clearly be to use the first five or ten years after the war for an intensive effort to develop new industries, by a stronger version of the methods applied before the war in other areas, and as an interim measure to encourage action by the steel industry, under official supervision, to mitigate the effect on the Western sector of the technical revolution in tinplate manufacture.

special protective measures for the older tinplate concerns to an end and to stimulate the introduction of strip mills and other technical improvements on the lines which have been suggested.

THE INDUSTRIAL AREAS OF WALES—CONCLUSIONS

A survey of the main industrial districts of Wales suggests two main conclusions. It is clear in the first place that there is a danger of a recurrence of unemployment and general depression on a scale little less serious than before the war—less serious, perhaps, in the Eastern sector of South Wales, but very much more serious in the Western sector. On the other hand, it is clear that developments immediately before and during the war have laid a solid foundation for a policy designed to prevent the recurrence of depression. In North Wales it should be possible to prevent any serious degree of unemployment by taking advantage of wartime developments and of the possibility of expanding the tourist trade and certain other pre-war industries. In the Western sector of South Wales it should be possible to synchronize the reorganization of the tinplate, sheet, and steel industries with the development of new industries to absorb the men displaced; a comprehensive plan should make it possible to carry out the necessary readjustments without allowing employment to fall at any stage below a satisfactory level. The new industries which have come into the Western sector of South Wales during the war provide a considerable amount of employment themselves, and might well serve as a nucleus for extensive further developments. The most difficult problems are likely to arise in the Eastern sector of South Wales, where some unemployment may be inevitable in the short run; but even here the new development which has taken place since 1936 makes it appear practicable both to limit unemployment by temporary arrangements on the lines which have been suggested and to ensure full employment in permanent occupations in a comparatively short period after the war.

There are two general considerations which deserve some final emphasis. One is the need for comprehensive planning, not only in a geographical sense—the interlocking of, for example, the transport problems of the different parts of Wales, or of the problems of the steel sheet industry in North Wales and in the two sectors of South Wales, or of the various problems arising in different parts of the country from the development of the tourist industry is obvious enough—but also in the sense of planning covering all types of development together. The solution of the economic problems of Wales cannot be separated from the solution of the more general problems of town and country planning. It is clear from what has been said that measures such as rural electrification, the improvement of housing conditions in areas where the tourist trade might be developed, the improvement of transport services, or the redevelopment

of the older industrial towns should serve simultaneously to improve living conditions and economic prospects; and, while there must continue to be different agencies to act in different fields, there must be some effective co-ordination between them at both the regional and the local level.

The other general consideration is that Wales is primarily a national, not an economic, unit, and that economic policies should be framed in the light of this fact. There are many issues, including particularly the question of communications, which need to be judged in the light of Welsh national feeling; but undoubtedly the most important is the problem of controlling the location of industry. It is inconsistent with the preservation of the Welsh culture and traditions that a solution to the economic difficulties of Wales should again be found, as it was before the war, in extensive migration to other parts of Great Britain, or even in large-scale movements of population over long distances within Wales itself. Movements of these kinds occurred before the war, and they may well recur afterwards; but there is no essential reason for them. It is clear from an examination of the problems of the Eastern valleys of South Wales or of the depressed Western valleys of the anthracite belt that some movement of population will be needed; but this movement need not be so great as to involve losing touch with the areas from which migrants come, and in most cases it should be possible to establish new industries within daily reach of workers living in their existing homes, even where they cannot be found work actually in their own home districts. Substantial measures of re-housing and general redevelopment will be needed throughout Wales after the war; it should be possible to plan these measures so as to bring population and new industries very much closer together than in the past, without in any way encouraging the break-up of the life of Welsh communities.

NOTE ON LATER DEVELOPMENTS

Since this chapter was written a number of important developments have occurred. Under the Distribution of Industry Bill, introduced in February 1945, the whole of Industrial South Wales, including Cardiff, the Swansea area, and South-east Carmarthen, is to become a Development Area, the new title of a Special Area. Following the announcement of an amalgamation between Richard Thomas and Guest, Keen and Baldwins, implying very much greater centralization of control in the South Wales steel and tinplate industries, it was announced by the Board of Trade that a new hot strip mill was definitely to be established at Port Talbot, probably in addition to one or more cold reduction plants, of which one would almost certainly be in the Llanelly area. The plants were being established by co-operation between Richard Thomas, Baldwins, Guest, Keen and Nettlefolds, the Briton Ferry Co., and the Llanelly Steel Co., acting in consultation with the Board of Trade; smaller local firms were being invited to participate. This statement was issued in January 1945; it was followed in February and March by further statements on the permanent utilization of new South Wales factories.

CHAPTER IV

THE INDUSTRIAL AREAS OF SCOTLAND

UNTIL the outbreak of war Scotland was distinctly less prosperous than most of the remainder of Great Britain, though far less depressed than Wales. The insured population of Scotland increased by 12 per cent between 1923 and 1937, as compared with 22 per cent for Great Britain as a whole, and the number of insured workers actually in employment increased by 12 per cent as against a national average of 24 per cent. Unemployment in Scotland averaged 2 per cent above the national level between 1927 and 1931, and 6 per cent above it between 1931 and 1936. There was heavy emigration in the years before the slump of the 'thirties, when there were good prospects of employment in other areas; between 1923 and 1931 an average of between 35,000 and 40,000 people left Scotland on balance each year, the equivalent of nearly 0.8 per cent of the population.

It is misleading, however, to speak in this connexion of Scotland as a whole. Unemployment in Scotland was largely concentrated in certain counties, and a number of other counties were more prosperous—in some cases very much more prosperous—than the national average. There is a marked contrast in this respect between Scotland and Wales. There is no county in Wales where unemployment between 1931 and 1936 was lower on the average than in Great Britain as a whole, though one or two counties came near the national average; there were degrees of depression, not a contrast between depression and prosperity. In Scotland there was a clear distinction between the areas in which unemployment was above and below the average for Great Britain.¹ The relatively depressed counties were mainly in the West and North; unemployment was above the average for Great Britain in every county on the mainland of Scotland west and north of Banff, with the small exception of Nairn, and in all the counties on the west coast as far south as Lanark and Ayr. Unemployment in the counties in the East and South of Scotland, from Aberdeen round to Wigtown, was in most cases about or below the national average; the most conspicuous exception was Dundee with some of the towns near it. Many parts of Eastern Scotland—particularly Perth, Edinburgh, and parts of the Lothians—had a level of unemployment as low as the prosperous Midlands.

For assessing future prospects Scotland can conveniently be divided into six areas. The first, the Highlands and Islands, was not covered by the Nuffield Survey. At the other end of Scotland the

¹ Chapter I, Map III.

Border counties and the counties of South-western Scotland have not been fully covered, though their most characteristic industries, woollens and hosiery, have been considered in separate industrial reports.¹ The four remaining areas, centred on Glasgow, Edinburgh, Dundee, and Aberdeen, include between them most of the industry of Scotland. The prospects of these four areas, on the assumption of no special Government planning or assistance beyond what has already been announced, were examined in the Survey's regional reports.

ABERDEEN

The Aberdeen survey area includes the city of Aberdeen and the counties of Aberdeen and Kincardine, with a combined population in 1938 of 351,700, and an insured population of 82,500.² 80 per cent of the insured population in 1938 was concentrated in the Aberdeen exchange area.

Aberdeen itself—in the sense of the Aberdeen exchange area—was moderately prosperous before the war, and is unlikely to be depressed for a considerable time after its end, though there are some disturbing signs for the future. Much the most important industry is fishing, with its related activities; the port of Aberdeen and the local shipbuilding and marine engineering industries depend principally on fishing, and fishing and its direct ancillaries included just before the war nearly 14 per cent of the whole insured population. Aberdeen is chiefly concerned with white fish, though it is also an important centre of the herring fishery. There were well-established woollen, linen, hosiery, and paper firms before the war, and a few firms engaged in general engineering, iron founding, and miscellaneous metal work. Aberdeen is also the main centre of granite manufacturing, though the actual number employed before the war was small. The war has not resulted in any important new industrial developments, since Aberdeen is in an exposed position on the East coast; there has been a good deal of air-raid damage, but none of any great importance to industrial property.

The chief pre-war problem in Aberdeen, and the one which is likely to give most difficulty when it reappears in future, was the failure of some of the leading local industries to take advantage of the opportunities of increasing production and employment which were undoubtedly open. This was particularly noticeable before the war in the white fishing trade. Aberdeen has an assured place in the fishing industry, and landings did not change to any great extent between 1930 and 1939. They were rather less in the late 'thirties than before the Great War; in 1935, a typical year, the weight of white fish landed at Aberdeen was about 10½ per cent less than in 1913. This was not a continuing decline, and in the 'thirties the

¹ See *Studies in Industrial Organization*, edited by H. A. Silverman. * Aged 16-64.

TABLE 26
ABERDEEN EXCHANGE AREA

Industry	Estimated No. of insured persons aged 16-64		Increase (+) or Decrease (-)		No. in each industry as % of total insured persons at July 1937	
	July 1923	July 1937	No.	% of July 1923	Aberdeen	Great Britain
Fishing	1,860	2,790	+ 930	+ 50	4.6	0.3
Shipbuilding and Ship repairing	1,680	1,510	- 170	- 10	2.5	1.2
Dock, Harbour, Canal, etc., Service	1,260	1,170	- 90	- 7	1.9	1.2
Miscellaneous Food Industries	2,490	2,690	+ 200	+ 8	4.4	1.0
Bread, Biscuits, Cakes, etc.	1,540	1,670	+ 130	+ 8	2.8	1.3
Paper and Paper Board	1,980	2,270	+ 290	+ 15	3.7	0.5
General Engineering, etc.	1,940	1,410	- 530	- 27	2.3	4.6
Hosiery	1,020	1,410	+ 390	+ 38	2.3	0.9
Chemicals (including Explosives, Oil, Paint, Soap, Ink, etc.)	1,270	1,140	- 130	- 10	1.9	1.7
Printing, Publishing, and Bookbinding	810	1,120	+ 310	+ 38	1.9	2.1
Cardboard Boxes, Paper Bags, and Stationery	1,090	1,090	—	—	1.8	0.5
Distributive Trades	8,800	11,900	+ 3,100	+ 35	19.6	15.2
Building	3,670	6,110	+ 2,440	+ 66	10.0	7.7
Public Works Contracting	2,060	1,580	- 480	- 23	2.6	2.2
Tramway and Omnibus Service	520	1,860	+ 1,340	+ 258	3.1	1.5
Road Transport (other than Tramway and Omnibus Service)	1,220	1,480	+ 260	+ 21	2.4	1.5
Hotel, Boarding House, etc., Service	1,080	1,850	+ 770	+ 71	3.1	3.3
Gas, Water, and Electricity Supply	540	1,040	+ 500	+ 93	1.7	1.6
All other Industries and Services	14,330	16,670	+ 2,340	+ 16	27.4	51.7
Total, all Industries and Services	49,160	60,760	+ 11,600	+ 24	100.0	100.0

Based on the evidence of the Ministry of Labour to the Barlow Commission.

Aberdeen fishing fleet appeared to have reached a reasonably stable level of employment and output.

This in itself was not unsatisfactory; but developments at Aberdeen must be compared with what was happening at the other main fishing ports. Total landings of white fish in Great Britain (exclusive

of fish landed by foreign boats) were 22 per cent greater in 1935 than in 1913, as against the fall of $10\frac{1}{2}$ per cent at Aberdeen. The port which gained most from the rise in total landings was Hull, where trawler owners set out to capture the big market for cheap fish, particularly through the fried fish trade, which has opened up in recent years. Hull trawlers are organized in relatively large fleets, are themselves large and relatively modern, and have the advantage of nearness to markets and of exceptionally efficient ancillary services—port services, coal and ice supply, and by-product plants. Hull owners were able in the last years before the war to work consistently at a profit, while Aberdeen owners were regularly on the margin between profit and loss. Between 1930 and 1933 they were working at a considerable loss.

The fact that Aberdeen failed to keep pace with Hull was not entirely the fault of Aberdeen owners, and it is in any case arguable that Aberdeen owners were right in not attempting to enter the market which became Hull's speciality. Transport costs were one important factor. Though the rate per ton-mile on fish sent from Aberdeen to London was little more than half as great as from Hull or Grimsby, the total charge per ton was twice as great. The good quality fish in which Aberdeen specializes can stand the charge, particularly since it can be landed earlier and in better condition at Aberdeen than at Hull; cheaper fish very probably could not. It is also argued that Aberdeen's reputation is built up on good quality fish, and that it would be undesirable for this reputation to be lost. With every allowance for factors of this kind, it is impossible not to feel that Aberdeen owners have shown less enterprise than they might. Over half the Hull fleet was less than ten years old in 1934, against 10 per cent in Aberdeen, and of the Aberdeen fleet 38 per cent was more than 25 years old. The co-operative enterprises supplying ship's stores and processing fish which were set up at Hull were absent at Aberdeen, where these services were provided on a small scale and relatively inefficiently; marketing at Aberdeen was also relatively inefficient. These signs could be multiplied.

A similar example of lack of enterprise, on a much smaller scale, can be quoted from the granite industry. In this case employment was stable for many years before the war; but it was stable in a rising market. The consumption of granite has increased, and the Aberdeen industry has taken a progressively smaller share in total sales. Lack of variety in the local raw material is part of the explanation; but the industry works mainly with imported materials, which can be had in any variety which is wanted. As in the case of the fishing industry, the main explanation appears to be lack of co-operative methods, in this case particularly for marketing, and failure to bring organization and equipment up to date.

This lack of enterprise on the part of some local industries did not cause depression before the war, and there is no reason to expect serious unemployment for some years—possibly decades—after the war ends. It is obviously impossible to predict the future of firms in some Aberdeen industries, particularly general engineering. Where prediction is possible it seems likely that something in the neighbourhood of the pre-war level of employment can be expected after the rush of the first few years of reconstruction. The development of employment in Aberdeen before the war does, however, suggest a warning. Unemployment in Aberdeen was consistently below the level for Great Britain as a whole from 1927, the year when records were first published, until 1933. From 1934 until 1939 it was almost equally consistently above it—not far above it, but far enough to serve as a reminder that, as a result of the slowness of some local industries to take advantage of their opportunities, the growth of employment was failing to keep pace with the growth of population. There is a danger that this trend may be resumed after the war.

There are various ways in which the rate of growth of employment might be accelerated. The development of the Government's building programme will undoubtedly require a considerable expansion of employment at Aberdeen; it is reckoned that the number of houses needed to replace existing dwellings and meet the accumulation of normal needs in the city of Aberdeen during the war is equivalent to about a third of the number of dwellings at present standing, and to rather more than the number built between 1920 and 1940. A nearer approach to a flat rate for transport to the South would be of considerable value. There is also the possibility of improving the efficiency of local industries, and especially of fishing and its ancillaries. Aberdeen trawler owners have an advantage in reconstruction over owners in Hull and other southern ports, since the high proportion of obsolete vessels in the Aberdeen fleet has made it impossible for the Admiralty to take the same proportion of vessels for naval duties as from ports where the fleets are more modern. Aberdeen owners have been able to accumulate financial reserves which may or may not be sufficient for reconstruction, but which are at any rate greater than those of owners elsewhere. Some reforms are likely in any case, and discussion of these is proceeding inside the industry; the possibility of accelerating and extending reforms should be carefully considered.

The most immediate and in some ways the most difficult problem in the Aberdeen survey area is likely to arise outside Aberdeen itself, on the fishing coast from Peterhead to Lossiemouth. This area depends on herring fishing, and suffered severely from the fall in the quantity and value of herring landed during the 'thirties. The

average annual weight of fish landed at Peterhead fell by more than 60 per cent between 1911-13 and 1936-9. All ports have not suffered so severely; but everywhere there have been falls, accompanied by heavy unemployment. The herring fleet is even more obsolete than the white fishing fleet; shortly before the war less than 6 per cent of the vessels were less than ten years old, and 66 per cent dated from before the Great War. There is at the moment little reason to expect a substantial increase in the demand for herrings after the war. Home consumption may or may not increase; exports, which before the war accounted for two-thirds of the sales of British herrings, may well decline. The future of the large pre-war market in the Baltic countries and Poland is particularly uncertain. There is not enough money in the industry to replace the obsolete vessels. There are few immediate openings for providing alternative employment in the fishing districts. Peterhead and Fraserburgh have canning works, and Fraserburgh has a well-known machine tool works; but there is little basis in either town for further immediate industrial development.

A smaller problem is being created inland from the fishing coast by the inroads which are being made during the war into Scottish forests. Cutting has proceeded to the point at which, to quote a report on the timber trade in this area:

'There will still be small stands of timber here and there, and thinnings from small plantations, and there will still be the local saw-miller to cut the boards for the hen-house and the posts to fence a field. . . . But, at best, there will be no real timber trade for about twenty years after the war, when plantations too young now even for wartime consideration will be ready for cutting. Those plantations are pitifully few; if one looks forward at all, one must really look thirty or forty years ahead, when the effects of post-war planting will make themselves felt.'

Timber production is not a large industry, even relatively to other industries in North-east Scotland; in Banffshire, a typical county, only a few hundred workers are employed even during the war on felling and converting timber, against a normal peace-time figure of 8,000 workers in agriculture and 6,000 in fishing. Nevertheless, the temporary disappearance of timber production, apart from a tiny production for local use, would be a serious disadvantage both to the areas immediately affected and to the districts, on the coast and elsewhere, for which local timber might have provided a basis for alternative industries; and the disappearance of timber production for twenty years after the war appears inevitable.

The outlines of a plan for dealing with the problems of the fishing and timber producing districts of the northern parts of the Aberdeen

survey area are emerging as a result of a number of developments during the war. A direct attack on the problems of forestry and timber production was foreshadowed by the announcement in Parliament in March 1944¹ of the Government's decision to form a Forestry Corps of between 25,000 and 30,000 men to be employed after the end of the war in forest work, road building, and similar operations. The share of North-east Scotland in the new employment provided in this way should be enough to provide not only for workers displaced from timber production (in the sense of felling, saw-milling, and similar operations) but also for a certain number of men displaced from the fishing industry. Ultimately, reforestation should make it possible to employ a considerable number of workers directly in the forests, and a larger number in industries such as furniture manufacturing which might be based on a local timber supply. It should be possible to start a number of industries of this kind on a small scale within a comparatively short period after the war, possibly relying in the first place partly on imported timber. The passage in 1943 of the Hydro-Electric Development (Scotland) Act, providing for extensive electrification in the North and North-east of Scotland, substantially improved the prospects of this and other forms of new industrial development; it was announced during the debates on the Bill that the Scottish Co-operative Wholesale Society was contemplating establishing new industries in the North if the Bill went through.² The Committee on the Herring Industry³ outlined early in 1944 a number of suggestions for improving the prospects of the herring fishery, including measures for financing the re-equipment of the industry, for strengthening its competitive power in export markets, and for stimulating home consumption. As in the case of Aberdeen, any measures actually adopted to assist the fishing industry would be greatly facilitated by cheaper transport rates to the South. A system of pooled charges for the transport of herring from ports in different parts of Great Britain has been applied for during the war, and the Committee on the Herring Industry, without accepting this particular scheme, recommended that something on similar lines should become a permanent feature of the industry.

DUNDEE

Dundee and a number of the towns near it have been severely depressed since the beginning of the slump of the 'thirties. Unemployment between 1927 and 1929 was below the national average. Since the beginning of the slump it has consistently been well above

¹ Statement by Lord Croft, House of Lords, 1.3.44.

² Statement by Mr. T. Johnston, Secretary of State for Scotland, House of Commons, 24.2.43.

³ Report of the Committee on the Herring Industry, Cmd. 6503.

TABLE 27—DUNDEE

Industry	Estimated No. of insured persons aged 16-64		Increase (+) or Decrease (-)		No. in each industry as % of total insured persons at July 1937	
	July 1923	July 1937	No.	% of July 1923	Dun-dee	Great Britain
Jute	32,950	25,940	- 7,010	- 21	38.5	0.2
Textile Bleaching, Printing, Dyeing, etc.	980	1,470	+ 490	+ 50	2.2	0.7
General Engineering, etc.	3,890	2,170	- 1,720	- 44	3.2	4.6
Shipbuilding and Ship repairing	2,440	1,810	- 630	- 26	2.7	1.2
Printing, Publishing, and Bookbinding	1,550	2,460	+ 910	+ 59	3.6	2.1
Bread, Biscuits, Cakes, etc.	1,060	1,130	+ 70	+ 7	1.7	1.3
Cocoa, Chocolate, etc.	790	1,120	+ 330	+ 42	1.7	0.6
Distributive Trades	6,100	8,460	+ 2,360	+ 39	12.5	15.2
Hotel, Boarding-House, etc., Service	410	1,260	+ 850	+207	1.9	3.3
Gas, Water, and Electricity Supply	1,210	1,090	- 120	- 10	1.6	1.6
Building	2,350	2,710	+ 360	+ 15	4.0	7.7
All other Industries and Services	12,980	17,810	+ 4,830	+ 37	26.4	61.5
Total, all Industries and Services	66,710	67,430	+ 720	+ 1	100.0	100.0

Based on the evidence of the Ministry of Labour to the Barlow Commission.

the general average, and the fact that it was not far short of 10 per cent above it even in 1937 showed clearly that the excess unemployment in Dundee includes a large persistent as well as a cyclical element.

Dundee's problem is in principle simple. 38½ per cent of its insured population in 1937 were engaged in jute manufacturing, and a high proportion of the remainder depended indirectly on jute. The local engineering works are concerned largely with jute machinery, the textile finishing trade is naturally concerned almost entirely with jute, and jute and jute manufactures accounted for over half the total value of Dundee's imports and exports before the war. The jute industry has been severely depressed as a result of the development of protected jute industries in other countries and, more important, of competition from India; in Great Britain as a whole the number of insured workers in jute fell 26 per cent between 1923 and 1937, and the number of insured workers in employment by

32 per cent. Between 85 per cent and 90 per cent of all the insured jute workers in Great Britain were in Dundee immediately before the war, and Dundee naturally felt the full weight of depression. Earnings in jute have been low; the average earnings of adult men were 48s. 10d. in October 1935 and 51s. 1d. in 1938.¹ Unemployment among jute workers in Dundee amounted to 21½ per cent even at the peak of the trade cycle in 1937, and had been 37 per cent in 1931. From the experience of 1937 it could be said that there were between 5,000 and 5,500 workers attached to jute, around 20 per cent of the total number of insured workers aged 16-64, who would not be required even at cyclical peaks.²

The prospects of the jute industry appear at the moment to be poor. Dundee manufacturers were finding it extremely difficult before the war to meet the competition of Indian firms in many standard lines; it was only in the highest quality products, such as linoleum hessian, that the superior skill of Dundee workers was able to make itself felt. During the war Indian manufacturers have begun to export even the better qualities of jute products, and it is doubtful whether Dundee firms will be able to regain the ground lost. One local estimate suggests that the number of jute workers for whom there is no work even at cyclical peaks may be twice as great after the war as before it—around 11,000, equivalent to nearly a sixth of the entire pre-war insured population of Dundee.

The most obvious suggestion is that an effort should be made to improve the efficiency of the British jute industry. Undoubtedly there are openings for greater efficiency. Though a considerable amount of re-equipment was undertaken during the 'thirties, it was estimated in 1938 that in the spinning section, where technical advances in recent years have been most important, some 60 per cent of all the machinery running was of an old type. An effort to form a research association not long after the last war broke down as a result of the individualism of the manufacturers, and it appears that little effective research is done even by individual firms. An illuminating example of the attitude of many jute firms to improved salesmanship and co-operative methods is the failure of the Dundee Chamber of Commerce to obtain enough support to justify acceptance of the Government's offer of space in the British section of the New York World's Fair of 1939. Neither labour nor capital has been noticeably progressive in its outlook.

It is doubtful, however, whether any practicable improvement in efficiency would make it possible for Dundee to maintain permanently even the pre-war level of employment. For many standard products

¹ Twenty-second *Abstract of Labour Statistics* and *Ministry of Labour Gazette*.

² This estimate allows for leaving a small margin of 'normal' unemployment even at the peak of the trade cycle.

before the war, Indian costs for labour, administration, and supervision (allowing for differences in the efficiency of labour) were not more than 70 per cent of costs in Dundee, and this gap is too wide to be bridged by any reforms which can at present be envisaged. The only measure which would make it possible for Dundee to maintain something approaching the pre-war level of employment, and still more to maintain a reasonable standard of wages, is a tariff. One main objection to a tariff disappeared in 1938, when for the first time for decades Great Britain became a net importer of jute goods. More important difficulties remain—political difficulties with India, the country which would chiefly be affected by a tariff, and the fact that India has a practical monopoly of raw jute, and could strangle the Dundee industry by increasing the export tax, which at present is balanced by an internal excise. It is clear that a permanent tariff is impracticable. It might, on the other hand, be possible to impose a temporary tariff under an agreement with India, by which the jute industry would be allowed a period of some years in which to reorganize, to concentrate on the lines in which its competitive strength is greatest, and to find work in other industries for displaced labour. An agreement of this sort, if the accompanying reorganization were sufficiently drastic, might set the jute industry on its feet and enable it to provide a reasonable living for its workers.

It is clear, however, that the effect of increased efficiency and of the concentration of output on a smaller number of lines would be to reduce employment considerably. Including the pre-war surplus, it is necessary to think in terms of finding new work for up to fifteen or twenty thousand jute workers. Not all of these should necessarily be re-employed in industry. Dundee has an exceptionally high proportion of women workers (72 to every hundred insured male workers in 1937), including large numbers of married women, and there is reason to think that women would constitute a high proportion of the workers displaced by technical changes. Technical and organizational changes, particularly the introduction of shift working in order to obtain the full advantage from improved equipment, were having a marked effect before the war in reducing the ratio of women to men actually employed in the jute industry, and this development is likely to continue. It is probable that if work for men at reasonable wages were more freely available than in the past, and if Dundee housing conditions were reformed, a considerable number of the women displaced from the jute industry would prefer to look after their own homes. Allowing for this, it is necessary to think in terms of a surplus of perhaps 10,000 to 15,000 workers who will have to be re-employed in other industries.

Building should make a big contribution; Dundee housing is extremely unsatisfactory in both quality and location. On the basis

of official statistics it can be estimated that about 18,000 houses will be needed immediately after the war, the equivalent of about a quarter of the existing number of dwellings, and the true need may well be twice as great. A satisfactory twenty-year housing programme would probably involve an increase in the annual output of houses of about 50 per cent or 75 per cent above the highest level attained before the war.

Dundee has a wide variety of minor industries which, though in most cases they are only weakly represented, would provide a solid basis for future development; in several cases these industries may well expand without any particular encouragement. The future of the one remaining shipyard depends on the uncertain future of ship-building in general, and is obviously impossible to predict; very much the same is true of the engineering firms, in so far as they are not directly concerned with the jute industry. On the other hand, the local linen industry may well expand; its staple in the past has been heavy canvas, but with an increasing proportion of lighter fabrics, including particularly a successful line of furnishing fabrics. Linoleum and carpet manufacturing, marmalade, confectionery, fruit canning, and printing and publishing are all important local industries which may well expand further. Printing and publishing were developing rapidly before the war; in addition to an important newspaper and magazine press Dundee has Valentine and Sons Limited, publishers of children's books, games, calendars, postcards, and similar articles, whose output and employment were increasing for some years before the war.

A third possibility is bound up with proposals for the establishment of road bridges across the Forth and Tay. Whether these bridges would make much difference to Dundee manufacturing industries is doubtful, though they would undoubtedly increase the possibility of developing new light industries in Dundee to serve the relatively prosperous market in the Lothians and Fife. Their main effect would probably be to emphasize Dundee's importance as a regional centre for the area south as well as north of the Tay, and to give it a new importance as a stage on one of the main routes to the North. The distributive trades, hotels, and boarding houses, and garages in Dundee would benefit; these trades are at present much less adequately represented in Dundee than might be expected in a town of its importance.

Without any special official encouragement, apart from the national building programme and the establishment of Forth and Tay bridges, these possibilities might perhaps result over a period of years in employment for an additional 5,000 workers—the estimate is obviously subject to a wide margin of error, and is in any case very optimistic. It is also by no means certain whether the distribution

of the new employment between men and women would agree sufficiently closely with the proportions of men and women among the workers displaced from the older industries; an expansion in building or printing and publishing would do relatively little to assist the high proportion of women displaced. Whatever the precise distribution of the new employment, there would still remain a surplus of perhaps 5,000 to 10,000 workers to be dealt with by other methods. It might be possible to retain after the war some of the very limited development in the munition industries (chiefly light engineering) which has occurred during the war; but it seems probable that the chief value of this development will prove to have been the experience in new types of work which it has provided for a number of jute workers. It was estimated in 1943, that about 1,600 Dundee workers had been transferred during the war to munition work in the Midlands and South; these workers have also acquired experience which may be of great value in developing new industries. On the basis of this new experience and of the wide variety of minor industries which already exist at Dundee it should not be impossible to develop sufficient new industries; but it is clear that this will not happen of itself, at least to a sufficient extent, and that strong measures of encouragement will be needed.

While Dundee itself provides the main problem in this region, a number of smaller centres have problems which deserve some attention. One example is Montrose. The population of Montrose has fallen heavily over the last fifty years. The substantial fishing industry has decayed, the number of linen firms has fallen from four to one, a flourishing timber trade has collapsed in the face of foreign competition, and a number of minor industries, some of them ancillary to fishing, have gone the same way. A new vegetable canning plant has made good only part of the loss. Down to the outbreak of war there was considerable unemployment and migration to other parts of the country. In this particular case an adequate solution would be the re-planning of the town to increase its attractions as a tourist centre—campaigns to attract visitors before the war were sufficiently successful to show that the possibilities of developing in this direction are considerable—and the introduction of one or two light industries. The suggestion is made in a Survey report that the existing trades of the town might combine to organize one or two new industries, apparently on the lines of a small public corporation under co-operative control. The suggestion is exceedingly interesting, particularly as applied to a small town with a strong community spirit.

EDINBURGH, THE LOTHIANS, AND FIFE

Before the war the Eastern end of the industrial belt of Central Scotland was relatively prosperous. Unemployment in Midlothian

(including Edinburgh) and East Lothian was well below the national average, unemployment in Fife was barely above it, and even in West Lothian, the least prosperous of these counties, unemployment between 1931 and 1936 averaged no more than 2 per cent above the figure for Great Britain. There were patches of severe unemployment even in the most prosperous parts of the area; at Leith, for example, unemployment was consistently above the national level from 1927 till separate statistics ceased to be published in 1938. On the whole, however, the area was prosperous, and this reflected itself in the statistics of population growth. The population of Fife and the Lothians¹ increased 4.6 per cent between 1931 and 1938, a considerably higher rate of growth than occurred either in Scotland as a whole or in Great Britain. Most of the increase occurred in Edinburgh; but the population of Fife, West Lothian, and Midlothian increased almost as much as the national average. East Lothian, where the population increased very little, is an agricultural county which has met with the same difficulties in recent years as agricultural counties all over Great Britain.

TABLE 28
RATE OF INCREASE OF POPULATION IN CERTAIN
COUNTIES OF SCOTLAND, 1931-8

	%
Edinburgh	6.9
Midlothian (excluding Edinburgh)	2.8
West Lothian	2.6
East Lothian . . . . .	.9
Fife	2.8
Scotland	3.1
Great Britain	3.2

The city of Edinburgh is unlikely to present any special problem of its own after the war. As a capital city it has a relatively high proportion of workers in service industries, with the usual corollaries of a high proportion of women in industry (54 insured women workers in 1939 for every hundred insured males, against the national proportion of 39) and relative insensitivity to the trade cycle. Unemployment in Edinburgh was well below the national level in the worst years of the depression, and rose slightly above it only at the peak of the boom in 1937. Apart from services, Edinburgh depends on a variety of manufacturing industries concerned chiefly or (as in the case of the food industries) wholly with consumers' goods.

Table 30 shows clearly that Edinburgh's prosperity in recent years has been built up principally on the rapid expansion of the

¹ 974,550 in 1938.

TABLE 29

INDUSTRIAL STRUCTURE OF EDINBURGH, THE LoTHIANS, AND FIFE, 1938

Insured Workers	Edin- burgh	Mid- lothian	East Lothian	West Lothian	Fife	Great Britain
Men 18-64	91,251	22,797	5,021	17,780	63,156	
Boys 14-17	11,143	2,927	587	2,304	7,945	
Women 18-64	42,613	3,450	1,634	2,451	14,919	
Girls 14-17	12,017	1,458	437	1,190	5,996	
Total	157,024	30,632	7,679	23,725	92,016	
Percentage of all insured workers engaged in each industry						
Building and Contracting . .	10.1	5.9	14.2	6.9	8.0	9.8
Shipbuilding, etc.	1.2	—	—	—	1.9	1.1
Engineering	2.7	1.4	0.2	8.4	1.6	6.5
Vehicle and Aircraft Con- struction	1.8	0.4	0.5	0.2	0.7	3.1
Woodworking	1.9	0.2	0.6	1.2	1.0	1.7
Chemicals, etc.	1.2	3.3	0.7	8.3	0.8	1.8
Miscellaneous Metal Industries	1.8	3.1	0.6	1.7	2.1	6.1
Watches, Scientific Instru- ments, etc.	0.5					
Rubber and Leather	3.3					
Brick, Cement, Concrete, etc.	0.3	2.3	—	4.0	0.5	1.6
Glass	0.3					
Coal-mining	2.2	39.4	2.8	22.7	27.7	5.8
Other Mining and Quarrying	0.2	2.5	0.1	9.0	1.0	0.7
Printing, Paper, etc.	6.2	7.8	0.2	2.3	4.4	3.1
Textiles	1.5	4.4	4.1	3.9	7.9	7.3
Clothing, Boots and Shoes . .	2.0	0.4	0.4	0.2	0.7	4.3
Food, Drink, Tobacco	10.0	1.8	2.1	2.3	2.7	4.0
Oilcloth and Brushes	—	0.1	—	—	4.2	0.2
Fishing	0.5	0.2	—	—	0.6	0.2
Farming, Market-Gardening, etc.	1.8	7.7	42.3	5.1	6.4	4.0
Private Gardening	0.2	0.6	2.4	0.5	0.4	0.7
Hotels, Restaurants, etc. . . .	4.7	1.1	5.3	1.4	2.3	3.3
Laundries, Dyeing, etc.	2.0	0.4	0.9	0.1	0.8	1.3
Commerce, Banking, etc. . . .	1.1	0.2	0.6	0.2	0.3	1.8
Transport	7.8	1.4	3.0	3.9	4.8	5.8
Gas, Water, Electricity	1.1	0.5	0.6	0.6	0.9	1.4
Distribution	22.2	10.4	10.6	12.3	11.9	14.8
National and Local Govern- ment	4.0	2.8	4.0	2.9	3.2	4.1
Professions, Entertainments, etc.	5.7	1.0	2.3	1.0	1.5	2.5
Chauffeurs, etc., in Private Service	0.2	0.1	0.6	0.1	0.1	—
Industries and Services not separately specified	1.4	0.4	0.4	0.5	0.5	1.2

food and service industries. The service industries include building and contracting, and in this context they also include the group 'motor vehicles, cycles, and aircraft', which is listed with the metal industries; before the war this group consisted in Edinburgh principally of garage employees and other service workers. The large printing and stationery and rubber groups have provided a solid and stable block of employment. Among the smaller groups which are specifically mentioned falls, over the period from 1923 to 1937, considerably outbalanced increases; on the other hand, it could be said by 1937 that the decline in the decaying groups had gone so far that if past tendencies were projected into the future something not far off a balance between increases and falls in the number of insured workers in these minor trades would be achieved. There was some reason to think that past tendencies to decline would in several cases not be continued. The decline in general engineering, in particular, was due largely to the decline in overseas trade and the fall in activity in shipbuilding and repairing. By 1937 many firms had adapted themselves to new markets, and engineering appeared to be gaining ground, even apart from war requirements. The improvement in the position of the general engineering firms was accompanied by a large and steady increase in employment in electrical engineering.

Nothing has happened during the war to suggest that future developments will be very different from what has occurred in the past, though the rate and direction of change may not be the same. No big new industries have come in. There has been the same development of miscellaneous engineering work as in most other districts, and there is reason to believe that enough of this activity in both general and electrical engineering may be retained after the war to represent at least a continuance of the pre-war tendency for light engineering to expand. This could hardly be considered a fundamental change in Edinburgh's economy, and there is no reason to think that any great change will occur in other directions. Reliance principally on stable and prosperous service and consumers' goods trades is likely to serve the city as well in the future as in the past. A representative of the Edinburgh Corporation told the Barlow Commission that there was no need for a special industrial plan for Edinburgh:

'In Edinburgh we think we have sufficient attractions to attract the industrialist without preferential treatment. We do not seek to enter into competition with our neighbours. . . .'

(Barlow Commission, Evidence, p. 227, q. 2416).

There is no reason to suppose that his statement will be any less true in future than it was at the time when he made it.

TABLE 30—EDINBURGH, LEITH, AND PORTOBELLO

Industry	Estimated No. of insured persons aged 16-64		Increase (+) or Decrease (-)		No. in each industry as % of total insured persons at July 1937	
	July 1923	July 1937	No.	% of July 1923	Edinburgh, Leith, and Portobello	Great Britain
Bread, Biscuits, Cakes, etc.	4,420	6,070	+ 1,650	+ 37	4.3	1.3
Drink Industries	3,420	4,650	+ 1,230	+ 36	3.3	0.8
Cocoa, Chocolate, etc.	840	1,200	+ 450	+ 54	0.9	0.6
Miscellaneous Food Industries	510	1,040	+ 530	+ 104	0.8	1.0
Printing, Publishing, and Bookbinding	6,760	6,410	- 350	- 5	4.6	2.1
Cardboard Boxes, Paper Bags, etc.	1,460	1,860	+ 400	+ 27	1.3	0.5
Rubber	4,350	4,410	+ 60	+ 1	3.2	0.5
Motor Vehicles, Cycles, and Aircraft	1,150	2,520	+ 1,370	+ 119	1.8	2.6
General Engineering	4,240	1,850	- 2,390	- 56	1.3	4.6
Miscellaneous Metal Goods Industries	1,650	1,780	+ 130	+ 8	1.3	2.0
Shipbuilding and Ship repairing	3,060	1,570	- 1,490	- 49	1.1	1.2
Coal Mining	3,220	2,100	- 1,120	- 35	1.5	6.6
Chemicals (including Explosives, Oil, Paint, Soap, Ink, etc.)	1,740	1,370	+ 130	+ 7	1.3	1.7
Furniture-making, Upholstery, etc.	1,300	1,720	+ 420	+ 32	1.2	1.1
Tailoring	1,810	1,510	- 300	- 17	1.1	1.6
Hosiery	950	1,120	+ 170	+ 18	0.8	0.9
Building	8,240	12,680	+ 4,440	+ 54	9.1	7.7
Public Works Contracting	1,190	1,560	+ 370	+ 31	1.1	2.2
Distributive Trades	23,800	30,610	+ 6,810	+ 29	21.9	15.2
Hotel, Boarding-House, etc., Service	3,040	6,410	+ 3,380	+ 111	4.6	3.3
Laundries, Job Dyeing, and Dry Cleaning	1,450	2,590	+ 1,140	+ 79	1.0	1.3
Tramway and Omnibus Service	1,940	3,570	+ 1,630	+ 84	2.6	1.5
Road Transport (other than Tramway and Omnibus Service)	2,200	2,320	+ 120	+ 5	1.7	1.5
Dock, Harbour, etc., Service	2,320	2,520	+ 200	+ 9	1.8	1.2
All other Industries and Services	31,680	35,590	+ 3,910	+ 12	25.5	37.0
Total, all Industries and Services	116,740	139,630	+22,890	+ 20	100.0	100.0

Based on the evidence of the Ministry of Labour to the Barlow Commission.

It does not imply, of course, that new industries should not be established at Edinburgh. Unemployment in Edinburgh before the war, though low, was by no means negligible, especially at Leith, and Edinburgh has in addition a contribution to make to the solution of the unemployment problem in the rest of Scotland, particularly in West Lothian and the Clyde area. Conditions in Edinburgh resemble conditions in the English towns which attracted light industries in the fifteen years before the war far more than do conditions in most other parts of Scotland, and the attraction of these industries to Edinburgh should be correspondingly easier. Experience before the war proved that it is not difficult for workers to migrate from the Clyde area to Edinburgh, or to travel into the city from depressed districts in the Lothians; it can be roughly estimated that nearly 20,000 people (on balance) moved into Edinburgh between the middle of 1931 and the middle of 1938, the equivalent of 4 per cent of the total 1938 population and of 12 per cent of the insured population. Opinion in Edinburgh itself is in favour of the creation of industrial estates and the introduction of new industries on conditions which, while not providing for the type of preferential attraction which would be appropriate in the case of a depressed area, would allow Edinburgh to play its full part in the expansion of employment in Scotland as a whole; and this is clearly the right attitude.

In West Lothian, Fife, and Midlothian outside Edinburgh the dominant industry is coal mining (Table 29). The output of the Scottish mines changed very little between 1929 and the outbreak of war, apart of course from cyclical variations. There was a slight drop in total output between 1929 and 1937; on the other hand, there was a strong eastward trend of mining development, so that the drop was felt in the Lanark and Ayrshire fields rather than farther east. The East Scottish fields experienced comparatively heavy losses in certain export markets, principally in the Mediterranean and along the western coast of Europe, but greatly increased their exports to the Baltic and Scandinavia, with the net result that exports from Eastern Scottish ports fell only from 4,820,000 tons in 1929 to 4,011,000 tons in 1937. Employment in Fife and Mid- and East Lothian fell 22 per cent between 1924 and 1929, as against a fall of 5½ per cent in output, as a result of mechanization and increased efficiency. Output and employment towards the end of the 'thirties were about the level of 1929, after a cyclical fall: but relatively severe unemployment remained in some districts.

During the war there has of course been a greatly increased demand, for coal from the Scottish heavy industries; on the other hand, the Baltic and Scandinavian markets have been cut off. In the early

years of the war Scottish output declined both absolutely and as a proportion of the total output for Great Britain as a whole to 12.9 per cent. Mechanization increased, though only to a limited extent, since it had already gone very far before the war. In 1943, 82 per cent of the coal mined in the Scottish fields was cut mechanically and 62 per cent was mechanically conveyed; the corresponding figures for Fife and Clackmannan were 92 per cent and 85 per cent.

The prospects for the Eastern Scottish coalfields after the war seem on the whole to be reasonably bright. Mechanization has proceeded so far that there is unlikely to be any serious further fall in employment from this cause. The eastward trend of Scottish mining will undoubtedly continue. There is no reason to suppose that home markets—to put the case at its lowest—will be smaller than before the war. The chief uncertain factor is the position of export markets. The prospects are in some ways favourable; just short of 70 per cent of the coal exported from Eastern Scottish ports in 1937 went to Scandinavia and the Baltic States, where the competitive position of Great Britain is relatively strong, and most of the remainder went to areas on the western coast of Europe of which the same is true. On the other hand it is possible that the demand from Scandinavia may have been permanently reduced by hydro-electric developments during the war, and political factors may also make a considerable difference. The great increase in exports to the Baltic which occurred between 1929 and 1937 (approximately a million and a quarter tons from Eastern Scottish ports) was based largely on a system of trade treaties whose future is problematic. Account will also have to be taken, at least in the long run, of the probability that the Baltic States will be occupied by the U.S.S.R. These areas provided a market for several hundred thousand tons of British coal; it is clearly impossible to predict at this stage how British sales will be affected. In view of these uncertainties it is impossible to predict the future output of the Eastern Scottish fields at all exactly. At a guess, the most probable level after the post-war boom is over might be somewhere in the neighbourhood of the pre-war output, with a possible range running from about two million tons below it to (say) a million tons above it. On this basis, employment in Fife and the Lothians seems likely to be slightly, but not greatly, below the pre-war level.

Against this background the general prospects for Fife and the Lothians can be assessed with some confidence. In the case of Fife the general impression is that there is no reason for anxiety. The national building programme should carry with it a high level of activity in the oilcloth and linoleum trades, as well, of course, as a substantial increase in employment in building itself. The prospects for the textile industries, the largest group of manufacturing trades,

appear on the whole to be fair. The two largest groups of textile firms are at Kirkcaldy and Dunfermline, though a considerable amount of linen and hemp spinning and weaving is also done in other parts of the county. The Kirkcaldy firms are concerned largely with medium linen fabrics, though finer fabrics and silk are also woven. They should benefit considerably through increasing demand from the oil-cloth and linoleum industries, and their prospects appear on the whole to be good. Dunfermline is the centre of fine linen manufacture in Scotland. Fine linen manufacturing was severely depressed in Scotland before the war as a result partly of the change in public taste—particularly the disappearance of damask tablecloths and napkins—and partly of competition from Northern Ireland. It is said that there were 7,000 linen looms in Dunfermline in 1919, and that the number had fallen by the outbreak of war to 400. There is little chance of an immediate revival in fine linen manufacturing, though something might be done by improved designing and co-operative sales organization. On the other hand, rayon weaving may well develop sufficiently to make good at least part of the decline in linen weaving before the war. All the linen firms in production at the outbreak of war were weaving rayon to a greater or lesser extent, and two, under Swiss management, were weaving rayon alone. There is a supply of highly skilled textile workers in and around Dunfermline, and the experience particularly of the Swiss firms shows that a further development of rayon weaving should not be difficult to promote.

Among the other Fife industries, the engineering trades serve largely the home market, and the chief local shipbuilding firm is exceptionally well established. There is some local anxiety over the future of Rosyth dockyard. The prospects of the one plastics firm (De la Rue) are excellent, and employment in this case may well be greater than before the war. There is no sign of any important change in the paper industry or the miscellaneous metal trades. It is possible that some of the light engineering work which has come into Fife during the war may remain permanently. The service trades, which were under-represented before the war, may expand when it is over, especially if Fife is brought on to the main line of tourist and general road traffic between North and South Scotland through the construction of Forth and Tay road bridges; there is an opening for extensive development of the holiday trades. The proportion of women employed in Fife before the war was rather below the national average (30 insured women workers for every hundred insured men in 1939, against the national average of 39), and there was a definite shortage of work for women in some areas; the development of service industries and possibly of light engineering would remedy this.

There may be pools of relative depression in parts of Fife, and a

shortage of work for women in one or two districts, as there was before the war. But, provided that coal exports do not fall heavily, prosperity should be at a high enough level for the patches of depression to disappear over a period of a few years, even without any active intervention of public policy. Fife should not have a higher level of unemployment than the country as a whole. In view of the variety of local industries it should in any case not be difficult to encourage any further development in industry or the service trades which future experience may show to be necessary.

In Midlothian and East Lothian there is also little risk of prolonged depression. The chief Midlothian industries, apart from coal mining, are paper making and carpet manufacturing. There is no reason to expect any great change in the paper industry, while carpet manufacturing may well expand. Wire rope manufacturing is another Midlothian industry in which expansion is possible. These possibilities of growth must of course be offset against the risk of some fall in employment in coal mining, and it is possible that the unemployment which existed before the war in the Calder area, where the shale mining district overlaps the borders of Midlothian and West Lothian, will appear again. East Lothian is a predominantly agricultural county; its manufacturing industries are insignificant. Its leading industry apart from agriculture is the tourist trade, which should gain considerably from the extension of holidays with pay.

The local planning authorities in Midlothian and East Lothian already have in hand schemes for developing industry and services. A scheme for the Esk Valley, in the centre of Midlothian, provides for the creation of a new town at Newcraighall, near Musselburgh, and of a new town and industrial estate at Dalkeith, centred round Newbattle Abbey. Other new industrial sites are also proposed, and plans are in hand for developing the tourist industry in East Lothian. It is perhaps a fair criticism of the plans for East Lothian and Midlothian that they pay too little attention to the needs of the Calder area; a number of the shale mines in this area are worked out, and re-development of the area is desirable from the point of view both of amenity and of employment.

The area in which difficult problems are most likely to arise is West Lothian. West Lothian depends on heavy industry—particularly engineering and iron founding—to a greater extent than other counties in East Scotland, and there was considerable unemployment before the war in some of the centres of heavy industry, as well as in parts of the coal and shale mining areas. Unemployment in the county as a whole was above the national average, and there was also a shortage of work for women. There were no more than 19 insured women to every hundred insured men in 1939, though this was partly compensated by the possibility of travelling into Edinburgh.

The position after the war of West Lothian, as of all districts which depend to any great extent on engineering, is obviously difficult to predict. It seems clear, however, that there is a risk that unemployment on something approaching the pre-war scale may reappear, particularly in parts of the coal and shale mining areas, and will need to be met with special measures. One solution in particular suggests itself strongly. There should be a number of openings in the mining districts of East Scotland for the manufacture of products derived from coal. The Report of the Parliamentary and Scientific Committee on Coal Utilization, published in May 1948, listed a number of products of this kind whose manufacture might be expanded in Great Britain, including fertilizers, dyestuffs, various other chemicals, plastics, synthetic rubber, soaps, lubricants, and various liquid fuels. For such industries the Lothians are considered to be eminently suitable by tradition and through the availability of natural resources, and, in view of the problems which may arise in West Lothian after the war, a development there would be particularly welcome.

THE CLYDE

The Western industrial district of Scotland¹ presented before the war one of the most difficult planning problems in Great Britain. 55 per cent of all employment in manufacturing industries in Scotland in 1935 was in this district, and 51 per cent of all employment in Census of Production trades. Altogether, there were 346,000 workers actually employed in 1935 in Census of Production trades, and there was in addition a substantial surplus unemployed. At the peak of the trade cycle in 1937 there were about 80,000 more insured workers unemployed in Lanark, Renfrew, Ayr, and Dunbarton than if unemployment had stood at the level of London and the South-east; the surplus was equivalent to 10½ per cent of the insured population. This concentration of unemployment was equalled in scale and severity only on the North-east Coast of England and in South Wales.

The high level of unemployment in the West of Scotland was due to the importance of a small group of heavy industries. Mechanical engineering as defined in the Census of Production—engineering, that is, exclusive of electrical engineering, motor and aircraft manufacture, and the rest of the vehicles group—was the largest of these. Mechanical engineering, shipbuilding, iron and steel and coal mining accounted between them for just over 40 per cent of all workers in Census of Production trades in the West of Scotland, as against 25 per cent in Great Britain as a whole. Not all the industries in this

¹ Lanark, Renfrew, Dumbarton (except the detached portion), Argyll, Bute, and Ayrshire North of Kilmarnock. This is the West Central District of Scotland defined for the Census of Production.

TABLE 31

SCOTLAND (WEST CENTRAL DISTRICT).¹ NUMBER RECORDED AS EMPLOYED AT THE CENSUS OF PRODUCTION

	1930			1935		
	No. employed West C. Scot.	Number employed in each industry as % of all employed		Number employed West C. Scotland	Number employed in each industry as % of all employed	
		in West C. Scot.	in Great Britain		in West C. Scot.	in Great Britain
Mechanical Engineering . . .	62,677	17.8	6.5	50,118	14.6	6.0
Electrical Engineering . . .	1,036	0.3	2.7	1,609	0.5	3.4
Shipbuilding . . .	31,844	9.0	1.9	17,913	5.2	1.1
Motors and Cycles . . .	2,862	0.8	3.4	2,880	0.8	3.9
Other Engineering (including Aircraft) . . .	2,780	0.8	0.7	2,180	0.6	0.9
Iron and Steel:						
Smelting and Rolling . . .	16,184	4.6	1.9	15,374	4.5	1.9
Foundries . . .	7,982	2.3	1.3	7,501	2.2	1.5
Other . . .	14,616	4.1	3.8	13,869	3.9	4.1
Non-ferrous Metals . . .	2,102	0.6	1.6	2,336	0.7	1.7
Woollen and Worsted . . .	5,567	1.6	3.2	7,576	2.2	3.3
Hosiery . . .	5,526	1.6	1.5	7,334	2.1	1.6
Cotton:						
Spinning and Doubling . . .	—	—	—	8,963	2.6	2.5 ²
Weaving . . .	—	—	—	2,935	0.9	2.3 ⁵
Textile Finishing . . .	8,701	2.5	1.4	7,280	2.1	1.3
Other Textiles . . .	18,697 ²	5.3	7.9 ⁵	6,655 ⁶	1.9	2.6 ⁵
Boots and Shoes . . .	1,915 ³	0.5	1.7 ⁵	(m) 1,325 } (r) 366 } 1,691 ³	0.4 } 0.1 } 0.5	1.7 ⁵
Other Clothing . . .	15,653	4.4	5.3 ⁵	16,574	4.8	5.7 ⁵
Leather . . .	1,600 ⁴	0.5 ⁴	0.7 ⁴	2,000 ⁴	0.6	0.7
Food, Drink, Tobacco . . .	26,639	7.6	6.7	33,223	9.7	7.2
Chemicals . . .	4,894	1.4	2.5	8,389	2.4	2.7
Paper, Printing, Stationery . . .	16,800 ⁴	4.8	5.4	17,700 ⁴	5.2	5.7
Timber . . .	8,900 ⁴	2.5	2.4	8,000 ⁴	2.3	2.7
Clay and Building Materials . . .	5,800 ⁴	1.7	3.2	6,800 ⁴	2.0	3.5
Miscellaneous Manufactures . . .	5,554	1.6	2.5	5,206	1.5	2.5
Total Factory Trades . . .	268,375	76.1	68.2	253,355	73.8	70.5
Coal Mines . . .	33,905	9.6	13.2	35,099	10.2	10.6
Other Non-factory Trades . . .	50,245	14.2	18.6	54,758	15.9	18.9
Total, All Trades . . .	352,525	100.0	100.0	343,212	100.0	100.0

¹ Defined at page 151, footnote.² This figure includes the cotton figures, which cannot be obtained separately, for West Central Scotland in 1930.³ For the West Central division of Scotland in 1935 separate figures are given for manufacturers of Boots and Shoes and Repairers. For 1930 Repairs are included in the total.

(For continuation of footnotes see facing page.)

group have been declining in the West of Scotland. Steel output in Scotland increased $32\frac{1}{2}$ per cent between 1913 and 1937, from 1,431,000 tons to 1,895,000; though this compared badly with the national increase of $69\frac{1}{2}$ per cent it represented a substantial advance. The engineering trades, after losing a number of workers and passing through a period of severe depression, recovered in 1937 to a level not far short of full employment.

The most persistent declines were in iron manufacturing, ship-building, and coal mining. The Scottish iron industry was built up on the local ores and the Lanarkshire splint coal, both of which are approaching exhaustion; the output of iron ore in Scotland fell from 591,600 tons in 1913 to 26,300 in 1929 and 22,300 in 1937. The blast furnaces are for the most part situated inland, and the substitution of imported ores has been less easy than, for example, on the Tees. The lack of integration between iron and steel plants is another characteristic of the Scottish iron and steel industries which has in the past worked to the disadvantage of both. The two industries grew up to a great extent separately, and not merely in a geographical sense; when steel manufacturing began in Western Scotland, around 1880, the manufacturers brought in pig-iron from other districts, since steel-making pig-iron was not made at the local works. Efforts to increase integration were made in the last years before the war, notably by the establishment of blast furnaces and coke ovens at Colville's existing steelworks at Clydebridge; but reorganization would have had to proceed very much further to produce the degree of integration which is desirable in modern technical conditions. Whatever the reasons, the output of pig-iron in Scotland fell from 1,369,200 tons in 1913 to 496,700 tons in 1937, and the sections of the industry making foundry and wrought iron have also been severely depressed.

⁴ Since the last part of the final figures of the Census of Production of 1935 has not been published, it is necessary to use the preliminary figures of the Census for the following groups:

Timber

Clay and Building Materials

Miscellaneous Manufacturing

(The volume on the Leather trades has been published, but no regional summary for Scotland)

Leather

Printing, Paper, Stationery.

The preliminary figures are smaller than the final figures, and as a result there is a small discrepancy between the figures for total employment in factory trades and the total of the separate groups, the latter being taken as the figure upon which the percentages are based.

⁵ Figures for Northern Ireland are not separately stated, therefore the percentages are based on United Kingdom figures.

⁶ The figure for 1935 comparable with 1930 (i.e. other Textiles including Cotton) is 18,608. The corresponding percentage to total employed in all industries is 5.4.

The output of ships on the Clyde was little lower between 1925 and 1929 than between 1909 and 1913—an average of 460,000 tons a year as against 501,000—but fell very heavily during the 'thirties. The average annual output of merchant ships between 1929 and 1937 was 213,000 tons, or 58 per cent less than between 1909 and 1913, and the output in 1937 was 337,000 tons, against 532,000 tons in 1929 and 685,000 in 1913. The output of warships also fell heavily after the Great War.

In the case of coal, average annual output in the Lanarkshire field fell from 17,400,000 tons between 1909 and 1913 to 16,600,000 tons between 1927 and 1929, and about 14,000,000 tons in 1937. To some extent this fall was offset by an increase over the same period from 4,100,000 tons to 4,600,000 in the output of the Ayrshire field, which lies partly inside and partly outside West Scotland as defined in the Census of Production. Employment in both fields fell as a result of mechanization; the proportion of coal cut by machine in the Ayrshire field rose between 1923 and 1935 from 23 per cent to 63 per cent, and in the Lanarkshire field the corresponding proportion rose from 51 per cent to 81 per cent. The number of workers employed in both fields together fell from 94,000 in 1913 to 54,000 in 1937.

The decline of several of the leading industries of the Clyde area was to some extent compensated by the growth of other trades, which expanded in the West of Scotland in the same way as in other parts of the country. Table 32 illustrates this process as it affected Glasgow, which contains more than half of both the total and the insured population of the Clyde Survey area.¹ There was a substantial rise in employment in the service industries, and in a variety of manufacturing industries which have not in the past been of great importance on the Clyde—in several of the clothing trades, in hosiery, several of the food trades, leather, furniture, motor manufacture, and several of the smaller metal industries. The number of insured workers in the printing and publishing trades grew faster in Glasgow than in the country as a whole, by 42 per cent between 1923 and 1937 as against 28 per cent; and there was a substantial increase in the small electrical engineering industry. In the last years before the war the growth of industries of this kind was being accelerated by the activities of the Scottish Development Council, established in 1931, and of the Commissioner for the Scottish Special Area, which included most of the industrial district of the West of Scotland outside Glasgow. The best known and most spectacular of the Development Council's achievements was the Empire Exhibition at Glasgow in 1938, which resulted in a considerable amount of new

¹ The area used for the purposes of the Nuffield Survey was that defined in the Survey made for the Board of Trade by Glasgow University in 1931-2. This differs slightly from the Census of Production area.

business for Scottish industry. The Council also co-operated with the Commissioner for the Special Area in establishing trading estates at Hillington and later on smaller sites at Carfin, Chapelhall, and Larkhall. The estate at Hillington, the only one of these which had time to establish itself before the war, had at the outbreak of war 75 firms employing a total of about 1,500 workers; the majority of these firms were newcomers to the Clyde area. They were engaged in a wide variety of light industries.

Valuable as they were, developments of this kind did not fully compensate the decline in some of the old-established industries. In some cases (Table 32 provides examples) the West of Scotland actually lost ground in the lighter industries. The boot and shoe industry is a case in point; the contraction of employment in the boot and shoe industry in the West of Scotland was very much more marked than in the country as a whole. But the absolute or relative decline in some Scottish light industries was only a minor factor. The essential reason for the inadequate rate of growth in the West of Scotland of industries which were expanding in Great Britain as a whole was that, here as elsewhere, the tendency was for employment in the expanding industries to grow and in the declining industries to contract at very much the same rate as in other parts of the country. The rate and direction of change in the total volume of employment depended principally on the share of each area at the outset in expanding and declining industries respectively; and from this point of view the West of Scotland was obviously under a severe handicap.

The new trading estates were intended to raise the rate of growth in expanding industries above the rate in the country as a whole; but they had only a limited direct effect. Employment at Hillington at the outbreak of war was equivalent to about 3 per cent of the surplus of workers on the Clyde for whom no work was likely to be available even at cyclical peaks; and, while the surplus consisted largely of men, the new employment was largely for women. The value of the trading estates, as in other areas, was chiefly moral. They demonstrated, more obviously and convincingly than the steady but unobtrusive development of new industries which had been going on for fifteen years before they were founded, that the West of Scotland was suitable for the light manufacturing trades which were expanding before the war. They were a particularly convincing demonstration of the suitability of Scottish labour for the new industries. Certain refugee firms, which tried to apply methods of labour management which they had found appropriate on the Continent, found themselves in difficulties and had to leave the Hillington estate; firms which were prepared to conform to normal British standards found their workers adaptable and generally efficient.

TABLE 32—GLASGOW

Industry	Estimated No. of insured persons aged 16-64		Increase (+) or Decrease (-) 1923-37		No. in each industry as % of total insured persons at July 1937	
	July 1923	July 1937	No.	% of July 1923	Glasgow	Great Britain
General Engineering, etc.	35,960	27,760	- 8,200	- 23	6.5	4.6
Shipbuilding and Ship repairing	25,550	17,280	- 8,270	- 32	4.1	1.2
Marine and Constructional Engineering	13,120	13,570	+ 450	+ 3	3.2	0.7
Iron and Steel (including Pig-iron) Manufacture	6,890	7,810	+ 920	+ 13	1.8	1.5
Metal Manufacture (other than Iron and Steel)	4,950	5,300	+ 350	+ 7	1.2	1.0
Motor Vehicles, Cycles, and Aircraft	2,600	4,930	+ 2,330	+ 90	1.2	2.6
Miscellaneous Metal Goods Industries	2,590	3,740	+ 1,150	+ 44	0.9	2.0
Dock, Harbour, Canal, etc., Service	7,100	6,290	- 810	- 11	1.5	1.2
Cotton	7,410	3,880	- 3,530	- 48	0.9	3.1
Hosiery	1,480	2,800	+ 1,320	+ 89	0.7	0.9
Tailoring	8,050	9,900	+ 1,850	+ 23	2.3	1.6
Shirts, Collars, Underclothing, etc.	1,960	3,500	+ 1,540	+ 79	0.8	0.6
Dressmaking and Millinery	3,830	2,120	- 1,710	- 45	0.5	0.8
Boots, Shoes, Slippers, and Clogs	2,420	2,030	- 390	- 16	0.5	1.0
Bread, Biscuits, Cakes, etc.	11,660	14,930	+ 3,270	+ 28	3.5	1.3
Drink Industries	2,990	3,860	+ 870	+ 29	0.9	0.9
Miscellaneous Food Industries	2,880	3,410	+ 530	+ 18	0.8	1.0
Cocoa, Chocolate, etc.	4,740	3,100	- 1,640	- 35	0.7	0.6
Printing, Publishing, and Bookbinding	9,860	13,960	+ 4,100	+ 42	3.3	2.1
Chemicals (including Explosives, Oil, Paint, Soap, Ink, etc.)	5,680	5,940	+ 260	+ 5	1.4	1.7
Furniture-making, Upholstering, etc.	4,250	5,260	+ 1,010	+ 24	1.2	1.1
Rubber	2,520	2,250	- 270	- 11	0.5	0.5
Leather and Leather Goods	1,700	2,170	+ 470	+ 28	0.5	0.6
Coal-mining	7,160	2,730	- 4,430	- 62	0.6	6.6
Building	17,190	24,720	+ 7,530	+ 44	5.8	7.7

TABLE 32—GLASGOW—(Contd.)

Industry	Estimated No. of insured persons aged 16-64		Increase (+) or Decrease (-) 1923-37		No. in each industry as % of total insured persons at July 1937	
	July 1923	July 1937	No.	% of July 1923	Glasgow	Great Britain
Public Works Contracting	2,250	7,450	+ 5,200	+231	1.8	2.2
Distributive Trades	59,570	90,730	+31,160	+ 52	21.4	15.2
Tramway and Omnibus Service	6,400	10,620	+ 4,220	+ 66	2.5	1.5
Road Transport (other than Tramway and Omnibus Service)	8,230	8,830	+ 600	+ 7	2.1	1.5
Hotel, Boarding House, etc., Service	6,470	9,620	+ 3,150	+ 49	2.3	3.3
Gas, Water, and Electricity Supply	7,340	6,930	- 410	- 6	1.6	1.6
Laundries, Job Dyeing, and Dry Cleaning	2,720	4,220	+ 1,500	+ 55	1.0	1.3
All other Industries and Services	84,740	93,370	+ 8,630	+ 10	22.0	26.5
Total, all Industries and Services	372,260	425,010	+52,750	+ 14	100.0	100.0

Based on the evidence of the Ministry of Labour to the Barlow Commission.

The net result of development in the Clyde areas over the twenty years before the war was, as has been said, one of the worst concentrations of persistent excess unemployment in Great Britain. Depression was aggravated by very severe cyclical unemployment. The Clyde depends to a great extent on exports—it is reckoned that about a quarter of the output of the West of Scotland industrial area was exported in 1930, and a sixth in 1935—and its main industries are also particularly sensitive to cyclical fluctuations in the home market. Before 1931 unemployment was to some extent relieved by migration either overseas or to other parts of Great Britain; it is reckoned that between 1921 and 1931 a net total of nearly 200,000 people left the area of the 1931 Survey, about 9 per cent of the 1921 population. From 1931 onwards the stream dried up; between 1931 and 1937 there was a negligible outward balance. Desirable as the stoppage of emigration might be in itself, it must in the circumstances of the 'thirties have contributed substantially to the high level of unemployment on the Clyde. Between 1927 and 1931 unemployment in Lanarkshire, which at the time was the most severely

depressed of the Clyde counties, averaged 4·7 per cent above the national level. As a result of the trade cycle, of the stoppage of migration and of the decline of a number of the leading local industries the percentage unemployed between 1931 and 1936 in Ayrshire, the least depressed of the four counties, averaged 4·1 per cent above the national level; the excess for Renfrew was 10 per cent, for Lanark 11 per cent, and for Dumbarton no less than 17 per cent. Cyclical unemployment was most severe in Renfrew and Dumbarton; persistent unemployment, unrelieved even at cyclical peaks, was most severe in Lanarkshire outside Glasgow.

The war has set going a number of cross-currents, whose future effect depends very much upon policy. In one sense it has put the clock back. Ships and heavy engineering products are urgently needed for the war effort, and the older Clyde industries have naturally re-expanded as a result. The most remarkable development has perhaps been in shipbuilding. Employment has increased rapidly, workers have come back from industries to which they moved during the depression—one example is a large-scale release of former shipyard workers from the Glasgow municipal services—and yards have been modernized and their capacity increased. Some of the yards closed by National Shipbuilders' Security Limited during the depression have been reopened; some of these yards are being used for prefabricated ships. There has been talk of record levels of output.

In other directions the war has carried forward pre-war trends. Coal output has fallen, in spite of the revival of demand from the heavy industries. In the iron and steel industry there has been substantial modernization and increase of capacity in the most efficient plants, and further developments are in prospect, while an entirely new plant has been built as part of a Royal Ordnance Factory near Glasgow. This plant was built as an integrated unit carrying out all the processes of steel manufacturing and finishing down to the completion of the final engineering product, which in this case was intended to be heavy guns. The Select Committee on National Expenditure¹ investigated the working of this factory, and found that though, for a variety of reasons, the engineering side was relatively inefficient, the steel-making side 'is efficiently run'. There has been little improvement in the older, unintegrated, and less efficient plants, particularly in the blast furnace and wrought iron groups; some of these plants have been shut even during the war, and the rest are likely to be in an even weaker competitive position after the war than they were before it.

A number of new industries have come into the area, in addition to the new steel and engineering plant. There are several Royal

¹ 74th Report, 28.10.43.

Ordnance Factories engaged in engineering, shell-filling, and explosive manufacture, a number of New Crown Forging works making shells and employing between them some thousands, several works making aircraft or aircraft components—one of these, the Rolls-Royce aero-engine works at the Hillington estate, is probably the most important single new development in the area—a variety of firms in adapted premises making guns, vehicles, optical glass, and other munitions, and a few evacuated firms from England making civilian goods. A London tailoring firm, a dressmaking firm, and a firm making biscuits are examples. There has been relatively little removal of firms from other districts into the Clyde area, and little removal of Clyde firms elsewhere, in spite of considerable air-raid damage in some parts of the district. A considerable amount of inconvenience has been caused by the destruction of houses and the dispersal of workers relatively far from their work; but the volume of industrial employment has been little affected.

An incidental effect of the influx of new industries and of developments in some of the older industries, especially iron and steel, has been to emphasize a tendency which was showing itself before the war for the balance of employment to shift westwards. There was a tendency for new industries to grow up west of Glasgow in the area near the docks and towards Paisley; the progressively developing works of the Scottish Co-operative Wholesale Society at Shieldhall were in this area, and the Hillington trading estate was also sited here. Some of the most valuable wartime developments in steel and light engineering have taken place in this direction. To the south-west, in the Ayrshire coalfield, employment was being better maintained before the war than in Lanarkshire, and here also there have been substantial new wartime developments. At the same time, the war has emphasized a tendency for some parts of Lanarkshire to become practically derelict as a result of the decline of coal mining, of the general westward shift of industry, and of a tendency for employment to become concentrated within Lanarkshire itself. Coatbridge, the chief centre of the iron industry, seems most likely to suffer from tendencies during and before the war which have worked to the advantage of a steel centre such as Motherwell.

The industries chiefly affected by concentration and similar measures are relatively weakly represented on the Clyde, and accordingly the immediate effect of these measures on the area's economy has not been great. Their long-run effect on the large textile and clothing industries may be small; but there are other groups in which the long-term change due to the war may prove to be considerable. There has been a tendency for certain Scottish consumers' goods industries to cling too closely to old-fashioned methods, and to refuse to take advantage of the new markets opened up by mass production.

To some extent this attitude has been broken down by the war. In the boot and shoe industry the Board of Trade has insisted during the war on a minimum rate of output per operative, and some degree of mass production has been forced on local firms; few firms had been willing to accept it before, and the decline of the Scottish boot and shoe industry was largely for this reason. Something of the kind has happened in the furniture industry as a result of standardization under the utility scheme. It is estimated that between 80 per cent and 90 per cent of the Scottish market for cheap furniture was supplied before the war from outside Scotland; as a result of the war the possibility that this market may be supplied in future by Scottish firms has been brought distinctly nearer to realization. Both in furniture and in boots and shoes there are great possibilities for the future if the advances made during the war can be maintained.

Another effect of the war which may have some permanent importance is an increase in the employment of women. There is evidence that a considerable number of women who have come into industry during the war, particularly into the modern factories where working conditions are best, are likely to wish to remain afterwards, and that employers will be anxious to keep them. There is no reason to suppose that many women have acquired any high skill in industry, and there was not before the war the same shortage of women with experience in unskilled or semi-skilled factory work in the West of Scotland, or the same need of more industrial work for women, as in some of the other depressed areas. The increase in the number of women with factory experience is less of an advantage in attempting to attract new industries in the Clyde area than it might be elsewhere; and, on the other hand, by increasing the number of workers seeking and qualified for factory work, it inevitably adds to the risk of unemployment among men and women alike.

A final and extremely important effect of the war has been to stimulate both economic and physical planning. In March 1943 it was announced that a Clyde Valley Planning Advisory Committee was to be set up to establish a plan of general development, including industrial development as well as the development of housing and other public services. It would obviously be unwise to expect too much from a Committee with merely advisory powers; at the same time, it is clear that the new Committee has great potentialities. The national building programme is likely in any case to involve a large increase in employment in the building trades in the Clyde area, where the standard of housing and general development is in many districts exceedingly low. In Lanarkshire, the worst of the Clyde counties, 56 per cent of the population in 1931 lived in 'houses' with one or two rooms, and the corresponding figure in Coatbridge reached the astonishing level of 73 per cent: more than a fifth of the people

of Coatbridge lived in one-roomed dwellings. It may be necessary to allow for a substantial westward shift of population, following the movement of industry, and possibly also for the effects of the concentration of employment in Lanarkshire into fewer centres than in the past.

If the possibility of making some permanent use of the new Royal Ordnance factories and Government agency factories is left out of account, consideration of prospects suggests that after the first period of reconstruction employment on the Clyde may well be higher than before the war; though it may not be far enough above the pre-war level to absorb the wartime increase in the working population, as a result both of natural increase and of the permanent movement of women into industry, and to prevent the reappearance of unemployment on the scale which existed down to 1939.

The group of trades whose future is least easy to predict is shipbuilding and marine engineering. The Clyde maintained its share of the national output of merchant shipping consistently at around 35 per cent for thirty years before the war, and there is no reason to suppose that the proportion will be substantially smaller in future. It may be slightly smaller, since it seems probable that there will be a permanent fall in the output of the largest types of liner, of which many have been built on the Clyde. The prospects of shipbuilding and marine engineering in Great Britain as a whole are discussed below in the chapter on the North-east Coast. The conclusion appears to be that there is a strong case for stabilizing merchant shipbuilding at a level of output equal to or above the peak attained in 1937 and 1938, but that, in the absence of a definite plan to secure this, it would be unwise to reckon on a higher level of output or greater stability than before the war.

In the engineering trades there appear to be definite possibilities of growth in some directions; the small electrical engineering industry seems particularly likely to expand, especially by developing the domestic appliance market, and an expansion in constructional engineering in connexion with the building programme is not unlikely. On the other hand, the prospects of the large machine-tool industry are extremely uncertain; as in the case of shipbuilding, there is little doubt about the ability of the Clyde works to hold their place in the market, but considerable doubt about the size of the market for several years after the first rush of reconstruction demand comes to an end. The expansion of the machine-tool industry both in this country and abroad implies that there may well be a world problem of surplus capacity and some loss of former export markets; the future of exports to Russia is particularly important to the Clyde. The locomotive engineering industry was depressed before the war, and may well become equally depressed again. The same is true of the sugar

machinery industry. The prospects for the Singer Company, whose sewing-machine factory is one of the biggest works on the Clyde, depend on the level of world purchasing power and particularly of purchasing power in the Colonies and other economically backward countries; in view of the prospect of an active policy of colonial development the outlook for this industry appears satisfactory. The engineering trades as a whole were probably working in 1937 at a higher level of employment than would have been attained without rearmament. When allowance is made for this, the most probable level of employment in the Clyde engineering industries in a good year after the war seems likely to be rather below the 1937 peak.

In the iron and steel and coal industries employment seems likely to fall. Steel output may be higher after the war than before it, even leaving out of account the new Royal Ordnance Factory steel plant, and it is not impossible that the Scottish steel industry may increase its share of the British market, or at least keep pace with growth in other districts, as it was not doing before the war. But employment in steel may well be less, as a result of increased efficiency, and both output and employment in iron manufacturing are likely to decline. In the case of coal the progressive exhaustion of the more accessible parts of the Lanarkshire field and the possibility of further mechanization, not so much of cutting as of conveying and other processes, indicate that both output and employment are likely to be less than before the war.

Among the minor industries of the West of Scotland there is more hope of an advance. In the textile group the possibilities of decline, especially in cotton weaving and finishing, are approximately balanced by the possibility of further expansion in the hosiery and carpet groups; there is no reason to expect any substantial change in employment in the sewing-cotton or lace industries. The boot and shoe industry, which was declining, may well revive as a result of its experience during the war. Very much the same is true of furniture. The gradual accumulation of a variety of light industries on the new trading estates will also presumably begin again after the war.

The prospects of the clothing industries should be particularly good. This group is largely localized in Glasgow, and its progress before the war can be judged from Table 32. Two of the three main sub-groups showed substantial advances between 1923 and 1937, and the decline in the third, dressmaking and millinery, was concentrated between 1923 and 1927, since when employment has been stable. The clothing industries, unlike some other consumers' goods industries in the West of Scotland, were developing mass-production methods for a wide market even before the war, and with rising standards of living there is little doubt that there will be a further expansion in future. The problem in these industries is not so much any danger

of depression as the difficulty of overcoming the disadvantages to their workers of the monotony and severity of the work under systems of mass-production.

Taking into account these prospects, and the probability of a substantial increase in building employment, it seems likely that the volume of excess unemployment on the Clyde at the end of the first years of reconstruction—say five years after the war—will not be greater than before the war, and may be distinctly less. It is probably necessary to think in terms of finding new employment for between 60,000 and 80,000 workers. It may not be necessary or desirable to re-employ all of these in their present districts; the large pool of unemployed which may appear in Lanarkshire might well be at least partly drained off to the districts in the West, in Ayr and Renfrew, where the prospects of development are brighter, or to new industries in and around Edinburgh. Though some short-distance transfers of this kind may be desirable, it is clearly preferable that as high a proportion as possible of the potential surplus of workers should be re-employed within easy reach of their present homes. They should, at any rate, wherever possible be re-employed within the Clyde area.

An obvious suggestion is that some use should be made of the new war factories, including both the Royal Ordnance Factories and a number of agency works. Two of these may prove particularly valuable. One is the integrated steel manufacturing and engineering plant which has already been mentioned. The steel manufacturing side of this plant is recognized as efficient, and possesses modern equipment and specialized facilities which might be extremely valuable to the West of Scotland. The Select Committee on National Expenditure pointed out that the engineering side was equipped with a special type of machinery, most of which could be used economically only for making heavy guns; but it was also pointed out that a large part of the work of the engineering side consisted of assembling parts from other factories, presumably with tools and machinery which could be adapted for other forms of assembly work. The other works whose retention is particularly important is the large, well-equipped, extremely efficient, and adaptable aero-engine works operated for the Ministry of Aircraft Production by Rolls-Royce. This is one of the largest works on the Clyde; it is well placed, in an area which was developing rapidly before the war; and its retention would have great psychological value, in addition to the direct importance of the employment provided.

It has not been possible to investigate in detail the possibility of making permanent use of most of the new Government factories, though the main outlines of a programme can be drawn by analogy with other areas. The Scottish Council on Industry, which was set up in 1942 to consider the future industrial development of Scotland,

has suggested a number of industries which might profitably be started in the industrial belt of Central Scotland, including building materials and domestic appliances, electrical appliances, plastics, fine chemicals, and medicinal products. It should be possible to use several of the new works for industries of these types. In some cases (especially in the case of building materials) the new industries might be on a large enough scale to occupy the whole of one of the large Government works; in other cases the larger works could be divided into small units and operated on the lines of a trading estate.

It may prove possible to make some permanent use of other Government establishments built during the war, as well as of the new factories. The use which might be made of aerodromes deserves particularly careful consideration. The aerodrome at Prestwick, just north of Ayr, has been used during the war as a terminal for transatlantic flying, and might well prove suitable for a similar use in time of peace.

However much can be done on these lines, it seems improbable that the development of new industries in the new Government works will solve more than part of the problem of surplus labour. It is impossible to make any exact estimate; but it seems clear that, if developments in the industries which were established before the war are allowed to take the course which has been suggested above, the maximum practicable amount of development in the new munition works would still leave many thousand workers unemployed even in a good year after the war. It is clear that it will be necessary for some time to come—probably for some decades—to continue and intensify the measures adopted before the war to accelerate the development of new industries on the Clyde. To avoid unemployment in the meantime it is necessary to find some way of maintaining employment in the older industries which may otherwise decline. In view of the nature of the industries of West Scotland there are two natural suggestions. The first is a shipbuilding programme on the lines suggested below in the chapter on the North-east Coast; a programme of this kind may well be desirable in any case, quite apart from the problem of unemployment. The second is to take steps to ensure that the Clyde obtains a large share in expenditure in Great Britain arising out of the programmes of industrialization and general development in backward countries which are at present under consideration. The iron and steel, locomotive engineering, constructional engineering, and machine-tool industries of the Clyde have long experience in supplying the type of demand which is likely to arise from these programmes.

In these various ways the problem of persistent excess unemployment in the West of Scotland can probably be met. There would still remain the problem of the exceptional sensitivity of industries

in this area to the trade cycle. This is principally a problem of the trade cycle in general; but it is also to some extent a problem arising out of the organization of some local industries. This is especially true of shipbuilding, in which fluctuations have been extraordinarily severe: the tonnage of merchant ships launched from the Clyde in 1933 was 9 per cent of the figure for 1929. As is suggested elsewhere, there is no essential reason for the instability of shipbuilding; it should be possible to stabilize output for several years at a time. A programme which ensured a reasonable measure of stability would be of the greatest value to the West of Scotland.

THE FUTURE OF SCOTTISH INDUSTRY—SUMMARY

The level of unemployment in Scotland as a whole was above the level for Great Britain down to the outbreak of war, and it is clear from a survey of the main industrial areas that there is a risk of the same occurring again. At Aberdeen there is little risk of immediate depression; but there is a danger that the failure of some local industries to take advantage of the openings available to them may lead to some depression in future. There is a risk of depression on the fishing coast north of Aberdeen, and in some of the smaller towns near Dundee, as well as in Dundee itself. Edinburgh and Fife may not have a high level of unemployment; but there are parts of the Lothians where unemployment may be severe, and in the West of Scotland the surplus of labour even in good years may be as great as before the war.

At the same time, it is also clear that there is no reason why depression should be allowed to materialize. It may be difficult to prevent unemployment in some of the fishing ports, on account of their isolation, and the same may be true to a certain extent of Dundee; but in general it can be said that, though there is a potential gap between the available labour supply and the amount of work available, the means of closing the gap also exist. To some extent the solution lies in the hands of the owners and managements of existing Scottish industries; as the examples of the fishing and jute industries and of some of the light industries in the West of Scotland show, there is a need for more enterprise and adaptability than has sometimes been apparent in the past. If this need is met—and there is no reason why it should not be—and if in addition reasonably practicable measures are applied to develop new industries and to maintain (at least temporarily) the older staple trades, the unemployment and depression which existed before the war should not recur. There will undoubtedly be changes in the relative importance of different areas—a decline in the industrial importance of the Lanarkshire coalfield area, a rise in the importance of Edinburgh and of the area west and south-west of Glasgow—and it is important that

plans should be made over wide enough regions to take full account of these changes; but over the whole industrial area of Central and Eastern Scotland there is no reason why a permanent decline should be inevitable.

It should be re-emphasized that the general inquiries of the Nuffield Survey, as distinct from special investigations of particular industries (the Border tweed industry, for example), extended only to Central and Eastern Scotland, and covered neither the Border counties in the South nor the Highlands and Islands in the North and West. The problems of the Highlands were touched in dealing with the prospects of the districts in the north of the Aberdeen survey area. Of the need for action in the Highlands there can be no question; it can be seen clearly enough from Tables 8 and 9 and the Map in Chapter I, and an analysis of population losses by migration would emphasize the same point. The lines of development suggested for the districts north of Aberdeen—the rehabilitation of the fishing industry, electrification, reforestation, the development of timber and other industries, and cheaper transport to the South—are very much the lines on which (with the addition of tourist development) the problems of the Highlands and Islands as a whole should be attacked; but it has not been possible to go into this in detail.

The question of transport charges and facilities deserves some final emphasis. It is pointed out in other chapters that cheaper and quicker transport to the main markets in the South-east is essential to a solution of the problems of areas such as South Wales or the North-east Coast. It can be appreciated that improved transport facilities are even more vital to the more distant producers in Scotland. There are considerable possibilities of increasing production in Scotland for the Scottish market—furniture is one case which has been mentioned. But many of the industries on which Scotland depends and must continue to depend are 'export' industries in the sense of industries which need a national market; and for these industries any steps which could be taken towards cheaper and quicker transport to the South would be of very great value.

NOTE ON LATER DEVELOPMENTS

The Distribution of Industry Bill provides (February 1945) for the inclusion in a Scottish Development Area of the pre-war Special Area, together with Glasgow and Dundee—a considerable improvement on the previous position. It appears from announcements made in the spring of 1945 that a substantial proportion of the new works in Scotland will remain in permanent operation. Whether enough will remain to invalidate the impression given by earlier surveys and recorded above remains to be seen; the vital question is whether sufficient use will be made of the immediate post-war opportunity. The comment on this on page 80 is particularly relevant to the case of Scotland.

CHAPTER V

THE NORTH-EAST COAST

UNEMPLOYMENT: THE PRE-WAR INDUSTRIAL STRUCTURE

THE North-east Coast¹ contained before the war the heaviest concentration of unemployment in England. There were areas such as Cumberland where the proportion of men out of work was higher, and there were more workers affected by excess unemployment in Lancashire and Cheshire; but there was no area where unemployment was as severe if the numbers and proportion of workers affected were considered together. At the peak of the trade cycle in 1937 the number unemployed on the North-east Coast was between 80,000 and 85,000 greater than if unemployment had stood at the level of London and the South-east; the excess was equivalent to about 11 per cent of the insured population. The North-east Coast was also one of the areas where cyclical unemployment was heaviest; in all three of the North-eastern counties the excess of the percentage of workers unemployed over the figure for the country as a whole increased rapidly between 1929 and 1932, and returned to near its previous level by 1937. In addition, the North-east Coast was one of the areas where opportunities of industrial work for women were most restricted. The proportion of women occupied according to the Census definition was well below the national average; 26 per cent of all women in the North Riding aged fifteen or more were occupied or retired in 1931, 21 per cent in Durham, and 28 per cent in Northumberland, against 35 per cent for England and Wales as a whole. The proportion of women in insured occupations was even lower. In 1939, 16½ per cent of the insured workers aged 16-64 on the North-east Coast were women and girls, as compared with 27 per cent in the whole of Great Britain. Even this was a substantial improvement on previous years; in 1924 the proportion of women and girls was 11½ per cent.

The heavy unemployment (visible and concealed) on the North-east Coast was due to the overwhelming importance in this region of a small group of heavy industries. The largest of these was coal mining, which in 1938 included 22.9 per cent of the insured population of the North-east Coast, as against 5.8 per cent in Great Britain as a whole. General, electrical, and constructional engineering accounted for slightly over 7 per cent, and shipbuilding and marine engineering for about the same proportion. Iron and steel and heavy chemicals

¹ Northumberland, Durham, and the Cleveland district of Yorkshire. The Northern Civil Defence Region in wartime includes this area, together with the remainder of the North Riding of Yorkshire.

TABLE 33
EXCESS OF UNEMPLOYMENT IN NORTHUMBERLAND,
DURHAM, AND THE NORTH RIDING OVER
THE NATIONAL LEVEL, 1929-37

Excess of the percentage unemployed in each county over the percentage unemployed in Great Britain.				
	1929	1932	1933	1937
Northumberland . . .	+5.5	+ 9.0	+ 8.9	+4.6
Durham . . .	+7.3	+18.3	+19.0	+8.7
North Riding . . .	+1.4	+15.0	+15.4	+4.3

were the other main manufacturing groups, and shipping and port services might perhaps also be counted in with the heavy industries, whose products they were largely concerned with handling. These six groups together included 48 per cent of the insured workers on the North-east Coast in 1938.

All six groups are predominantly men's industries; even when the groups are broken up into their component parts it appears that the only sub-group in which more than a tenth of the insured workers in 1939 were women was electrical engineering, for which the proportion was 17 per cent. Four of the six groups (iron and steel, engineering, shipbuilding and marine engineering, and coal), accounting between them for 43 per cent of the insured population of the region in 1938, are exceptionally sensitive to the trade cycle; most of their sub-groups appear among the first ten industries in the table of relative sensitivities which was quoted earlier.¹ Only one of the six, chemicals, was growing rapidly between the two wars. Developments at Billingham more than doubled the number of workers attached to chemical industries on the North-east Coast between 1924 and 1938; but the chemical group was the smallest of the six, and the proportion of all workers on the North-east Coast who were attached to it rose only from 0.8 to 1.8 per cent. The number of workers in the shipping and port services was practically the same in 1938 as in 1924; the engineering group gained about 9,000 workers, and the iron and steel group lost about 8,000. The output of steel on the North-east Coast in 1937 was 39 per cent greater than in 1913 and 23 per cent greater than in 1929; but the output of pig-iron had fallen 37 per cent since 1913, and in 1937 had barely regained the level of the last cyclical peak. In the two remaining groups, shipbuilding and marine engineering and coal mining, employment and the insured population began to fall rapidly after the last war, and continued to fall until by 1938 the number of insured workers attached to these industries was no more than 70 per cent of what it had been in 1924. Even at the cyclical peak of 1937 there was severe unemployment in both these groups.

¹ Chapter I. n. 7.

TABLE 34

CHANGES IN THE NUMBERS AND DISTRIBUTION OF INSURED WORKERS, AGED 16-64, ON THE NORTH-EAST COAST¹

Industry or Service	Nos. insured—000's			Index Nos. 1924 = 100		Nos. per 1,000 of all insured on N.E.C.			Nos. on N.E.C. per 1,000 insured in each industry in U.K.		
	Nos. insured—000's		1939 ¹	Index Nos. 1924 = 100		Nos. per 1,000 of all insured on N.E.C.			Nos. on N.E.C. per 1,000 insured in each industry in U.K.		
	1924	1938 ¹		1938	1939	1924	1938	1939	1924	1938	1939
0. Total Insured											
0A. Total Males	680.0	742.6	745.1	109	110	—	—	—	61	54	53
0B. Total Females	600.5	626.3	622.8	104	104	883	843	836	74	63	62
	79.5	116.3	122.3	146	154	117	157	164	27	30	31
1. Coal Mining	234.0	199.9	165.6	73	71	344	229	222	192	198	197
2. Chemicals	5.7	13.4	14.0	235	246	8	18	19	60	120	119
3. Iron and Steel ²	50.3	42.0	40.6	84	81	74	57	54	196	186	176
4. Engineering ³	41.9	53.1	56.0	127	134	62	72	75	61	67	68
5. Shipbuilding and Marine Engineering	82.1	53.8	53.6	66	65	121	72	72	289	252	244
6. Shipping and Port Labour	23.4	23.7	23.1	102	99	34	32	31	77	81	81
1-6. Totals	437.4	356.0	352.8	81	81	645	480	474	153	142	140
7. Other Metal Trades	9.9	14.0	13.9	141	140	15	19	19	21	19	19
8. Clothing	6.9	8.2	9.3	119	135	10	11	12	13	14	15
9. Food, Drink, and Tobacco	13.0	17.1	17.7	132	136	19	23	24	27	30	30
10. Woodworking	5.5	9.6	9.4	174	171	8	13	13	30	39	39
11. Printing and Paper	7.6	8.7	9.0	114	118	11	12	12	22	20	20
12. Building	25.2	47.5	47.7	188	189	37	64	64	37	46	47
13. Public Works Contracting	6.9	26.1	27.1	378	393	10	35	36	55	81	76
14. Gas, Water, Electricity	7.9	9.4	9.6	120	121	12	13	13	49	43	44
15. Road Transport	10.5	19.9	20.0	190	190	15	27	27	41	49	49
16. Distributive	65.8	98.0	97.4	149	148	97	132	131	50	48	48
17. Local Government	12.2	25.4 ¹	26.8 ¹	209	222	18	34	36	53	59	58
18. Hotels, Clubs, Restaurants, etc.	10.8	20.8 ¹	21.9 ¹	193	203	16	28	29	40	43	44
19. All other Industries	60.4	81.9	82.5	136	137	87	110	111	19	23	21
7-19. Totals	242.6	386.6 ¹	392.3 ¹	160	162	355	520	526	30	35	34

¹ Including certain domestic employments insurable from April 1938.² Including Iron-ore Mining and Coke Ovens.³ General, Electrical, and Constructional.

TABLE 35
OUTPUT OF IRON AND STEEL ON THE NORTH-EAST COAST,
1913-37 (TONS)

<i>Pig-iron</i>	1913	1929	1937
North-east Coast	3,869,000	2,349,100	2,429,200
Great Britain	10,260,300	7,589,300	8,493,100
<i>Steel</i>			
North-east Coast	2,031,100	2,303,000	2,824,800
Great Britain	7,663,900	9,655,000	12,984,000

It is the decline in the shipbuilding and mining groups which has been chiefly responsible for the growth of persistent excess unemployment on the North-east Coast; the number of insured workers attached to them fell 92,000 between 1924 and 1938, and their share in the insured population dropped from 46.5 to 30.1 per cent. In the five years from 1909 to 1913 an annual average of 771,000 tons of merchant shipping were launched at the North-east Coast ports, together with between 60,000 and 70,000 gross tons a year of warships. The average annual amount of merchant shipping launched between 1929 and 1937 was 184,000 tons, with about 18,000 gross tons of warships. There were 679,070 tons of merchant shipping launched in the peak year, 1929; this level of output was not regained after the slump of the early 'thirties, and in 1937 launchings amounted to no more than 341,000 tons. In the case of coal, output in the Durham and Northumberland fields together fell from 56,800,000 tons in 1913 to 53,500,000 in 1929, and to 47,700,000 tons in 1937. The fall was accompanied by a rapid increase in mechanization. Ninety-one per cent of the output of Northumberland and 40 per cent of the output of Durham was cut by machine in 1937, and 49 and 22 per cent respectively was mechanically conveyed below ground; 4 per cent of the coal produced in Durham had been mechanically cut before the Great War, and not more than 10 per cent in Northumberland. As a result of mechanization and falling output employment declined from 226,000 in 1913 to 162,000 in 1937.

THE IMPACT OF DEPRESSION ON DIFFERENT DISTRICTS

The depression which resulted from the decline of these two trades, and from the exceptional sensitivity of the North-east Coast to the trade cycle, did not strike all parts of the area equally severely or in the same way. The North-east Coast can be divided into four districts, each with its own industrial characteristics. The district where depression was least persistent before the war was Tees-side, the area round Middlesbrough, the Hartlepoons, Stockton, and Darlington, which in 1938 contained 20.5 per cent of the insured population

of the North-east Coast. Stockton has the growing chemical industry at Billingham. The main industry at Middlesbrough is iron and steel—all but one of the large firms on the North-east Coast are in or around Middlesbrough—and, though the iron and steel industry in this area has not increased its employment, it has at least not contracted with the same rapidity as shipbuilding and coal mining. To some extent the fall in employment in iron and steel at Middlesbrough before the war was offset by a rise in constructional engineering. At Darlington the main industry is heavy engineering in various forms, including particularly locomotive engineering. Darlington's industries are sensitive to the trade cycle, but appear to have been moderately prosperous at cyclical peaks. Both at Darlington and at Middlesbrough there was very heavy unemployment in the worst years of the slump; well over 40 per cent of the insured population of Middlesbrough were out of work in 1932 and the first part of 1933. But this depression proved to be mainly cyclical, and by 1937 unemployment at Darlington had fallen below the national average; unemployment at Middlesbrough was approaching it. Of all the Tees-side towns only the Hartlepoons, where the dominant industry is shipbuilding and marine engineering, experienced before the war the acute unemployment, persisting even at peaks of the trade cycle, which was found farther north in Sunderland, parts of Tyneside, and the decaying areas of the coalfield.

As a whole Tees-side has benefited from the fact that it has no coal mining. It has a large share in shipbuilding, the other main contracting industry on the North-east Coast, and between 1913 and 1937 it lost more ground in shipbuilding than either Sunderland or the Tyne; 31 per cent of the tonnage launched on the North-east Coast between 1910 and 1913 came from the Tees, and less than 25 per cent between 1929 and 1937. But it is in coal mining that the largest fall in employment occurred, and in this fall Tees-side had no part.

Tyneside, at the other end of the region, includes a number of towns which were acutely and persistently depressed before the war. Unemployment in South Shields and Gateshead, and in several of the smaller centres, was consistently over 40 per cent from the end of 1930 till 1936. It would be wrong, however, to pick out for separate discussion the parts of Tyneside where depression was most severe. Tyneside is, as one Survey report put it:

'What for many purposes is one integrated community of over 800,000 souls who move freely up and down and across the river. Even the working-class towns of Gateshead and Jarrow are largely dormitory towns, most of their populations working in other towns of Tyneside.'

TABLE 36—CHANGES IN NUMBERS AND DISTRIBUTION
AND SERVICES ON

No. as Table 34	Industry or Service	Nos. at July 1938	Percentage increase from 1924				
			1929	1932	1934	1937	1938
0.	Total Insured . . .	742,600*	1½	6	5½	6	9*
19.	Fishing	1,020	20	31	39	20	9
Pt. 19.	Other Mining & Quarrying	5,680	-7	1	1	-3	2
A.	Manufacturing Industries						
9.	Food, Drink, and Tobacco	17,100	13	20	20	26	32
7.	Metal Trades	14,000	3	26	28	34	40
10.	Woodworking	9,600	22	42	51	68	74
11.	Printing and Paper . . .	8,700	19	21	22	18	14
8.	Clothing, Boots, etc. . .	8,200	-6	3	5	16	19
Pt. 19.	Miscellaneous	34,000	2	4	13	27	32
	Total Manufacturing . . .	91,600	7	15	19	28	35
B.	Structural						
12.	Building	47,500	18	35	64	79	88
13.	Public Works Contracting	26,100	2	286	345	318	278
C.	Public Services						
17.	Local Government . . .	25,400*	16	57	80	77	109*
15.	Road Transport	19,900	53	82	92	81	90
14.	Gas, Water, Electricity . .	9,400	8	15	22	40	22
D.	'Consumption' Services						
16.	Distributive Trades . . .	98,000	22	41	46	45	49
18.	Catering Trades	20,800*	25	55	56	71	93*
Pt. 19.	All other Industries and Services	41,200	7	26	33	41	51
7-19	Totals	386,600*	15	40	50	54	60*

*Including certain domestic

For all intents and purposes Tyneside is a single industrial unit, and it is necessary to consider the area as a whole. In 1939 it contained some 292,800 insured workers, 39 per cent of the total for the North-east Coast.

On the one hand, Tyneside shared to a substantial extent in the general decline of the basic industries of the North-east. The proportion of the insured population engaged in the six basic heavy industries in 1939 was smaller on Tyneside than in the North-east as a

OF INSURED WORKERS (16-64) IN THE MINOR INDUSTRIES
THE NORTH-EAST COAST

Nos. per 1,000 of all insured on N.E.C.						Nos. per 1,000 Insured in each Industry Group in G.B.					
1924	1929	1932	1934	1937	1938	1924	1929	1932	1934	1937	1938
—	—	—	—	—	—	61	58	58	57	56	54
—	—	—	—	—	—	38	41	40	41	33	32
8	8	8	8	7	7	61	58	63	64	63	64
19	22	22	22	23	23	27	30	30	29	30	30
15	15	17	18	18	19	21	20	22	21	18	19
8	10	11	12	13	13	30	31	35	36	38	39
11	13	13	13	12	12	22	24	22	22	20	20
10	9	10	10	11	11	13	12	12	12	14	14
38	38	37	41	46	46	12	12	12	13	14	15
101	107	110	114	122	123	17	17	17	18	18	19
37	44	47	57	62	64	37	36	41	45	44	46
10	10	37	43	40	35	55	44	94	116	103	81
18	20	26	31	30	34*	55	53	57	61	59	58*
15	23	27	28	26	27	41	48	50	52	48	49
12	12	12	13	15	13	49	52	51	49	50	43
97	117	128	135	133	132	50	49	48	49	47	48
16	20	23	24	26	28*	40	41	44	42	42	43*
40	42	48	48	53	55	27	31	33	33	34	35
355	403	467	505	516	520*	30	30	34	35	34	35*

employments insurable from April 1938.

whole—about 37 per cent, as against 47 per cent—but was still very high. The difference between the two figures was due to the relatively low, though still considerable, proportion of Tyneside workers engaged in coal mining— $8\frac{1}{2}$ per cent, as against 22 per cent for the whole North-east Coast. The two main heavy industries of Tyneside are engineering (including marine engineering), which accounted for 16 per cent of the insured population in 1939, and shipbuilding and repairing, which included 8 per cent. Employment in shipbuilding

and repairing fell before the war at very much the same rate as on the North-east Coast as a whole; 38 per cent of the tonnage launched on the North-east Coast between 1910 and 1913 came from the Tyne, and the corresponding figure for 1929-37 was 36 per cent. Engineering employed more in 1939 than in 1924, though largely as a result of rearmament. Employment in electrical engineering was increasing steadily before the war, quite apart from rearmament. General engineering declined after the Great War and remained persistently depressed until rearmament began; much the largest general engineering firm on Tyneside is Vickers-Armstrong, which is particularly dependent on orders for arms. In addition to the tendency towards persistent depression in general engineering, the Tyneside engineering trades were subject to wide cyclical fluctuations; 8,900 workers were employed in general engineering in June 1934, and 17,500 in 1937.

On the other hand, Tyneside is distinguished from the rest of the North-east Coast by its character as a centre of commercial and personal services. To a certain extent the southern part of the region looks towards Middlesbrough for these services; but in a very real sense Newcastle is the centre of services for the whole of the North-east Coast. Newcastle's character as a service centre stands out clearly from the analysis of its industrial structure in Table 37.¹ The distributive trades, the hotel and catering services, and printing, publishing, and bookbinding accounted in 1937 for 28 per cent of the insured population of Newcastle, as against 20.6 per cent for the country as a whole. In the whole of Tyneside, including the residential and holiday districts along the coast, 21.5 per cent of the insured population in 1939 were engaged in the distributive trades or the hotel and catering services, against 17.9 per cent in Great Britain generally. The demand for these services is relatively little affected by the trade cycle; and in the slump of the 'thirties this helped to offset the exceptional sensitivity to the trade cycle of the other main Tyneside industries. In spite of the high proportion of Newcastle workers engaged in shipbuilding, mining, and general engineering the proportion unemployed in Newcastle increased in the worst years of the slump rather less than in the country as a whole. In typical months of 1928 and 1929 unemployment in Newcastle was about $17\frac{1}{2}$ to 18 per cent, and in Great Britain as a whole 11 to $11\frac{1}{2}$ per cent, a difference of $6\frac{1}{2}$ per cent; the corresponding difference for 1932 was $4\frac{1}{2}$ per cent. The importance of service trades on Tyneside also made it possible for a much higher proportion of women to enter insured occupations than in other parts of the North-east Coast. There were

¹ The Ministry of Labour's evidence to the Barlow Commission omitted any reference to several service groups, including the professions, entertainments and sport, and commerce, banking, and finance.

TABLE 87
NEWCASTLE-ON-TYNE

Industry	Estimated No. of insured persons aged 16-64		Increase (+) or Decrease (-)		No. in each industry as % of total insured persons at July 1937	
	July 1923	July 1937	No.	% of July 1923	Newcastle-on-Tyne	Great Britain
General Engineering .	13,750	15,970	+ 2,220	+ 16	12.6	4.6
Electrical Engineering .	1,950	3,160	+ 1,210	+ 62	2.5	0.9
Shipbuilding and Ship repairing .	10,250	5,320	- 4,930	- 48	4.2	1.2
Marine and Constructional Engineering .	2,800	2,840	+ 40	+ 1	2.3	0.7
Dock, Harbour, Canal, etc., Service .	1,070	2,330	+ 1,260	+ 118	1.8	1.2
Coal Mining .	8,240	6,510	- 1,730	- 21	5.1	6.6
Printing, Publishing, and Bookbinding .	2,190	3,060	+ 870	+ 40	2.4	2.1
Building .	5,150	8,540	+ 3,390	+ 66	6.7	7.7
Public Works Contracting .	950	2,180	+ 1,230	+ 129	1.7	2.2
Distributive Trades .	14,690	26,670	+ 11,980	+ 82	21.1	15.2
Hotel, Boarding-House, etc., Service .	3,430	5,730	+ 2,300	+ 67	4.5	3.3
Gas, Water, and Electricity Supply .	2,650	4,890	+ 2,240	+ 84	3.9	1.6
Road Transport, other than Tramway and Omnibus Services .	1,700	2,510	+ 810	+ 48	2.0	1.5
All other Industries and Services .	33,840	36,960	+ 3,120	+ 9	29.2	51.2
Total, all Industries and Services .	102,660	126,670	+ 24,010	+ 23	100.0	100.0

Based on the evidence of the Ministry of Labour to the Barlow Commission.

31 insured women and girls to every hundred insured males¹ on Tyneside in 1939, as compared with 39 for Great Britain and 21 for the region as a whole.

The advantages which Tyneside obtained from the relatively favourable employment situation at Newcastle should not be overstressed. They were great enough to save Tyneside as a whole—though not all parts of it—from the extreme degree of depression found during the 'thirties elsewhere on the North-east Coast. They did not prevent Tyneside from being depressed in an absolute sense,

¹ Aged 16-64.

or relatively to the rest of the country. The unemployment due to the persistent decline of mining, shipbuilding, and some branches of engineering, aggravated by a very sharp cyclical decline in the early 'thirties, was severe in all the industrial towns on the Tyne, and fell particularly heavily on men. There is no question of the rightness of the Government's decision in 1934 to include the whole of Tyneside, not excepting Newcastle, in the North-eastern Special Area.

The most persistent and unrelieved depression on the North-east Coast occurred in the two remaining districts, the main part of the Durham and Northumberland coalfields and the district round Sunderland. The coalfields, north and south of the Tyne, included in 1938 some 222,000 insured workers, 30 per cent of the total for the region. Apart from iron and steel manufacturing at Consett and from the usual local services coal mining was before the war practically the only industry open to workers in this area, and 60 per cent of all insured workers in the area were in fact engaged in mining.¹ The coalfield district naturally felt the full weight of the drop of 28 per cent in employment in mining between 1913 and 1937 (32 per cent between 1924 and 1937), and some parts of it also suffered from the tendency of mining in Durham to move eastwards as the older pits to the west were worked out. Mining has been an expanding industry on the Durham coast; farther inland it has decayed and in some areas permanently disappeared, leaving a number of towns and villages derelict. The Commissioner for the Special Areas emphasized in his first report that, though new industries might be found for some of these centres, any attempt to revive others would be hopelessly uneconomic.

Sunderland's problem was in many ways similar to that of Tyneside towns such as South Shields, except that Sunderland did not have the advantage of belonging to the Tyne conurbation. Many of its workers travel to Tyneside; but the connexion is naturally less close and advantageous than (say) the connexion between Newcastle and the other Tyne towns. The Sunderland exchange area (Table 38) included in 1938 about 8 per cent of the insured population of the North-east Coast. The dominant industry is shipbuilding and marine engineering, which in 1937 accounted for 17 per cent of the total insured population. Sunderland more than held its own against the other North-east Coast ports during the decline in shipbuilding after the Great War; the proportion of all tonnage launched on the North-east Coast which came from Sunderland was 31 per cent between 1910 and 1913 and 39 per cent between 1929 and 1937. But the absolute fall in output was exceedingly heavy, from an average of

¹ The actual number of miners in the coalfield area defined here is estimated for 1938 at about 130,000; another 4,000 workers were engaged at coke-oven and by-product plants

TABLE 38
SUNDERLAND

Industry	Estimated No. of insured persons aged 16-64		Increase (+) or Decrease (-)		No. in each industry as % of total insured persons at July 1937	
	July 1923	July 1937	No.	% of July 1923	Sunderland	Great Britain
Shipbuilding and Ship repairing . . .	13,240	8,120	- 5,120	- 39	12.8	1.2
Marine and Constructional Engineering . .	4,880	2,540	- 2,340	- 48	4.0	0.7
Dock, Harbour, Canal, etc., Service . . .	1,180	1,670	+ 490	+ 41	2.6	1.2
Coal Mining . . .	6,930	8,900	+ 1,970	+ 28	14.1	6.6
General Engineering, etc. Furniture-making, Upholstering, etc. . .	1,850	2,440	+ 590	+ 32	3.9	4.6
Glass and Glass Bottles . . .	390	1,730	+ 1,340	+ 344	2.7	1.1
Building . . .	700	1,310	+ 610	+ 87	2.1	0.4
Public Works Contracting . . .	3,880	4,710	+ 830	+ 21	7.5	7.7
Distributive Trades . . .	390	2,280	+ 1,890	+ 485	3.6	2.2
Hotel, Boarding-House, etc., Service . . .	6,460	9,130	+ 2,670	+ 41	14.4	15.2
Gas, Water, and Electricity Supply . . .	1,130	1,910	+ 780	+ 69	3.0	3.3
All other Industries and Services . . .	990	1,260	+ 270	+ 27	2.0	1.6
	13,140	17,280	+ 4,140	+ 31	27.3	54.2
Total, all Industries and Services . . .	55,160	63,280	+ 8,120	+ 15	100.0	100.0

Based on the evidence of the Ministry of Labour to the Barlow Commission.

268,000 tons a year between 1910 and 1913 to 71,400 tons between 1929 and 1937, and no more than 155,700 tons even at the 1937 peak. Sunderland gained from the eastward shift of coal mining and from the development of furniture, glass, and general engineering industries; but this did not compensate for the very heavy fall in shipbuilding and marine engineering, which in 1923 had included nearly a third of the whole insured population. The severity of depression was increased by the great cyclical fluctuations in shipbuilding; launchings at Sunderland fell from 245,500 tons in 1929 to 8,800 in 1931 and 2,600 in 1932 before recovering to 155,700 tons in 1937. Unemployment at Sunderland rose to over 50 per cent at the worst period of the slump, and never fell below 20 per cent from 1929 till the outbreak of war.

PRE-WAR EFFORTS AT ADJUSTMENT: INADEQUACY OF
OFFICIAL ACTION

Before the war the North-east Coast as a whole was gradually adjusting itself to changed conditions. The proportion of the insured population attached to the six heavy basic industries fell between 1924 and 1938 from 64·5 to 48 per cent, and if the relatively prosperous chemical industry is excluded the proportion had fallen from 63·7 to 46·2 per cent. The lighter industries on which the prosperity of the Midlands, London, and the South-east was based developed as rapidly in the North-east as in other parts of the country; Northumberland and Durham contained in 1923 some 3·5 per cent of the insured workers attached to the twenty-three industries which expanded faster than the general average in Great Britain as a whole between 1923 and 1937, and obtained 4·1 per cent of the increase in the number of workers in the twenty-three industries between these dates.¹ But the North-east Coast was hopelessly handicapped in its efforts at adjustment by the high proportion of its workers who were engaged in the declining heavy industries at the start; only 22 per cent of the insured workers of Northumberland and Durham were in the expanding industries in 1923, as compared with 38 per cent in the country as a whole. Allowing for the relatively high proportion of women in many of the growing industries it may be estimated that, to reduce unemployment on the North-east Coast in 1937 to the level of London and the South-east, it would have been necessary for the growing industries to expand on the North-east Coast more than twice as fast as in the rest of the country.

The efforts to accelerate adjustment which were made by the Government under the Special Areas Acts and the House of Commons resolution of March 11, 1936,² and the efforts made by voluntary agencies and focused through the North-east Development Board, were effective only to a limited extent. The most important measure adopted, the establishment of trading estates in the Team Valley and later at Pallion (near Sunderland) and at St. Helen Auckland, did little directly to solve the region's main problem of unemployment among men; the great majority of the 4,000 or so employees on the Team Valley estate at the outbreak of war were women and girls. About half were girls under eighteen. The most valuable immediate result of the establishment of trading estates was moral; it gave the area new hope.

¹ Chapter I, Table 6.

² 'That, in the opinion of this House, His Majesty's Government should endeavour to discourage the undue concentration of modern industries in the southern counties and to encourage new industries, where practicable, to establish themselves in the older industrial centres.' Hansard, H.C., 11.3.36. Col. 2215. A further resolution to the same effect was passed in November 1936.

In more favourable circumstances the estates might have had the same indirect effect in bringing the North-east Coast to the notice of employers in the newer industries as similar estates did actually have in South Wales and Cumberland. The estates in Cumberland and Wales had little more direct effect in solving the main problems of their areas than the estates on the North-east Coast; but they served as a focus for propaganda designed to interest employers in the depressed areas, and the success of most of the firms which settled on them was a standing demonstration of the suitability of Cumberland and South Wales for new light industries. This lesson was driven home by the threat of war; Cumberland and South Wales were relatively safe, and in the last months before September 1939 and the first months of the war a considerable number of important firms established themselves in these areas.

The Team Valley estate was an equally convincing demonstration of the suitability of the North-east Coast for the newer and growing industries. An inquiry made by the Commissioner for the Special Areas some time before the war showed that firms in other districts which might have sited plants on the North-east Coast rarely had any very definite reason for placing them elsewhere; the North-east Coast 'simply did not occur to their minds in this connexion'. They needed an actual demonstration of the successful development of new industries on the North-east Coast to interest them, and this the new trading estates were beginning to provide—the very limited period during which the estates were in operation before the war must not be forgotten. Cases can, of course, be quoted of firms which have found difficulties which might not have occurred elsewhere; one example is a light engineering firm which found that the North-east Coast did not possess certain ancillary services or certain types of skilled labour which are available in the light engineering centres in the Midlands. In this particular case the difficulties were overcome. In general, it appears that new firms have found the North-east Coast a suitable site, though the problems of transport, housing, and general social amenities to which reference is made below continue to present a certain handicap. The North-east Development Board and the Commissioners for the Special Areas made every effort to spread the lesson of pre-war experience by propaganda; but the North-east Coast is not a safe area, and accordingly there has not been the same spate of new development either before or during the war as in Cumberland and South Wales.

Too much should not be made of the accidental circumstance that South Wales and Cumberland were relatively safe districts and the North-east Coast was not. Neither of these areas is yet free from the danger of a recurrence of the severe depression which fell on them between the two wars, and it is doubtful (at the least) whether

enough new industry would have come in to solve the North-east Coast's pre-war problems even if the North-east had benefited from the threat of war in the same way as the depressed areas in the West. The measures taken to relieve depression were too disproportionate to the problem to be solved.

Whatever the cause, there is no question that at the outbreak of war the North-east Coast was very far from having completed its adjustment to changed conditions. 'When the present war broke out,' as one Survey report put it, 'there was little sign of any real solution of the problem of the area. All that appeared probable was that the population would slowly decline by a drift to other more fortunate districts, and that the extent of this change would be moderated with some success by the continued efforts of . . . public authorities and the enterprise of business men.' Unemployment remained high and population was drifting away—Durham was losing population at the rate of 1 per cent per annum between 1931 and 1936, and Northumberland and the North Riding at $\frac{1}{4}$ per cent—and the process of adjustment seemed likely to last for decades.

IMMEDIATE EFFECTS OF THE WAR

The war has reversed the unfavourable trends of the previous fifteen years and brought back prosperity to the North-east Coast. It has also reversed some of the more favourable trends, and there is a danger that when the immediate stimulus of armament demand disappears the North-east may prove to have lost a great deal of the ground gained through readjustment in the 'twenties and 'thirties. The traditional products of the region are vital to the war effort, and the industries making them have been working at high pressure since war broke out. Chemicals, general and electrical engineering, and shipbuilding and marine engineering have all expanded considerably; in the case of shipbuilding several yards which were closed down during the slump have been reopened. Labour has been moving back into industries which it was leaving before the war. The need for additional workers in the growing industries has been largely met, as in other areas, by the recruitment of women; but there has also been an increase in the number of insured men (and a still greater increase in the number of insured men actually in employment) attached to some of the traditional industries. There is a good deal of unsettlement and uncertainty of the future among the workers in the older industries, and presumably this implies that a high proportion of the workers who have come in during the war would leave again afterwards if they could see good openings elsewhere. There are signs, however, that some of the influx may prove permanent; the number of apprentices in general engineering and shipbuilding increased by nearly 6,000 between 1939 and 1943. Many

of the newer trades which were expanding before the war have contracted, and in some instances newly established firms have had to close down. Here again there are signs that part of the contraction may prove permanent, or, at any rate, that the North-east will have to start again from a lower level than before the war.

Comparatively little new industry has come into the North-east Coast; the most important new developments are three Royal Ordnance Factories. New chemical works and a small clothing factory have been opened on Tyneside; but the employment at these works is very small compared to employment on light engineering in two of the three Royal Ordnance Factories, and on shell-filling at the third and largest. The work done at the filling factory, by far the largest single new source of employment in the region, will obviously be of very little value in peace-time.

As a result of the limited development of new industries and of the contraction of some older industries during the war, the North-east Coast has not been able to employ all its available labour, and considerable numbers of workers have been transferred to other areas, chiefly the Midlands and South. The *Economist*¹ has estimated the total number transferred down to the autumn of 1943 at between 55,000 and 60,000, or the equivalent of $7\frac{1}{2}$ per cent of the pre-war insured population. This transfer may in the end prove an advantage to the North-east; the transferred workers, provided that they return, are likely to bring back experience in types of industry which have not been common on the North-east Coast in the past, and which it is important to attract in future. The very extensive recruitment of women for North-east Coast industries during the war may help in the same direction. The proportion of insured women aged 16-64 rose between 1939 and 1942 from twenty to every hundred insured men to thirty-seven. Many of the women who have entered industry would undoubtedly prefer to leave again afterwards; but some would prefer to remain, and the supply of women workers with factory experience, of the type needed by the light industries which were expanding before the war, has in all probability been permanently increased. There is, of course, a danger that if sufficient new development fails to occur the competition of newly trained women workers may result in increased unemployment among men and women workers who were working before the war.

There has been some air-raided damage on the North-east Coast; but there is no reason to think that it will leave important permanent effects. There has been no dispersal of industry and offices, of the kind which has occurred in London and other vulnerable areas farther south. There has been a substantial movement of population out of some of the most vulnerable towns on the coast; but this movement

has been on a smaller scale than has occurred in the South or on other parts of the East Coast, and there is no reason to think that any large part of it will prove permanent.

THE OUTLOOK FOR THE FUTURE: DEPENDENCE ON THE HEAVY INDUSTRIES

The outlook for the North-east Coast after the war, in the absence of more drastic measures to promote new industries than were applied before 1939, is far from favourable. It is clear that the area will depend little less than before the war on the traditional heavy industries. The Northern Industrial Group¹ has estimated that 41 per cent of the insured population of the North-east Coast are likely to be engaged after the war in coal mining, shipbuilding and repairing, engineering, iron-ore mining, iron and steel manufacture, and coke ovens, as compared with 48 per cent in 1938. The prospects for these industries, though not on the whole worse than before the war, are no better, and in some cases are definitely worse.

COAL

Output has fallen during the war in the coalfields of both Durham and Northumberland, largely as a result of the curtailment of exports; approximately a quarter of the output in Northumberland and a third of the output in Durham was exported or shipped as foreign bunkers in 1938. The main markets were in Western Europe and the Baltic. The future of these export markets is of course extremely uncertain. They are markets in which the competitive position of British exports is relatively strong; but they are also markets which benefited considerably from the system of trade treaties built up during the 'thirties, whose future is problematic. In view of the Soviet occupation the future of trade with the Baltic States is particularly uncertain. On the whole, it seems not improbable that output in Durham will be rather below the pre-war level after the first years of reconstruction; output in Northumberland, where costs are lower, may well regain its pre-war level. Employment in Northumberland would in that case be as high, or nearly as high, as before the war; over 90 per cent of Northumberland coal was cut mechanically and nearly 50 per cent mechanically conveyed below ground even in 1937, and the scope for further mechanization is accordingly small. There has been some progress in mechanization in Durham during the war; 45 per cent of Durham coal was cut mechanically in 1941, against 40 per cent in 1937, and 31 per cent was mechanically conveyed below ground against 22 per cent. There

¹ *Considerations Affecting Post-War Employment in the North-east.* Northern Industrial Group (a group mainly representing employers and workers in the heavy industries). November 1943.

is clearly scope for further developments, and if output falls simultaneously with an increase in mechanization employment may be substantially less than before the war.

This estimate suggests that unemployment in the coalfields may not be much less than before the war. At the same time, it is possible that the achievement of even the estimated level of employment may be hindered by a shortage of certain classes of labour. Neither miners nor coal-owners are optimistic over the future of mining, and the miners have passed on their fears to the boys who might otherwise be entering the industry. Boys leaving school appear in any case to be showing a growing dislike for conditions of work in the pits, and it is suggested locally that this tendency may be strengthened by the raising of the school-leaving age. No doubt these objections could be overcome by satisfactory guarantees of earnings and of stability of employment, as well as by continued improvements in conditions of work; in the absence of adequate measures of this kind, it seems possible that after the war there may be a definite shortage of younger miners. The men who might have entered mining may not be actually employed in another industry; but they will be recorded as attached to other industries and not to the mines.

SHIPBUILDING AND MARINE ENGINEERING

The other three districts on the North-east Coast, Tyneside, Tees-side, and Sunderland, have in common some degree of dependence on shipbuilding and marine engineering. The future of these trades is at the moment entirely uncertain. The future size of the Merchant Navy, the tonnage afloat under all flags at the end of the war, the period during which the American shipbuilding effort will be carried on, and the relative efficiency of yards in other countries which are either potential competitors or former customers all remain unknown. The relative efficiency of British shipyards should prove to be reasonably high. Costs have been lower in Britain than in America even during the war, and in peace-time British builders will have the advantage of greater experience of the specialized needs of particular types of trade. The equipment, organization, and technique of British yards has been greatly improved during the war, and there is no reason to expect that competition from overseas countries other than America will be more difficult to meet than before. British shipbuilders immediately before the war were concerned chiefly with the home market—11½ per cent of British output was exported between 1933 and 1937, as compared with 23 per cent between 1909 and 1913—and have therefore relatively little to lose in the markets where competition will be most severe. They should be able to hold their own in the home market; but it remains to be seen how large the home market will be, and whether it will be

organized so as to eliminate the disastrous fluctuations of the 'twenties and 'thirties.

The one thing which can be said with some confidence is that if the Merchant Navy is restored to its pre-war size there is no need for a repetition of the conditions experienced in shipbuilding in the 'thirties. Immediately after the war there will be, of course, a substantial demand for repairs and re-conversion, and for the replacement of the larger and more specialized types of vessel which have been built in relatively small quantities during the war. The rate of building which might be needed in the long run can be judged from pre-war estimates. One estimate showed that to maintain between $17\frac{1}{2}$ and $17\frac{3}{4}$ million gross tons on the British register, allowing for exports of new and second-hand ships and for casualties and obsolescence, it would have been necessary to launch an average of just over a million and a quarter tons of merchant shipping a year for ten years from the end of 1937.¹ This may be compared with the 921,000 tons actually launched in 1937 and the 1,030,375 tons launched in 1938.

The suggested increase of between 30 or 40 per cent over the actual tonnage launched in 1937 corresponds almost exactly to the estimated surplus of berths in Great Britain in the same year; in November 1937 the proportion of berths occupied in British yards was about two-thirds.² Since 1937 new berths have been brought into service and a number of disused berths have been re-equipped; down to August 1942 some twenty-three shipyards which went out of use in the depression had been reopened.³ The efficiency of the berths available for use in 1937 has been greatly increased. Taking account of these developments it is clear that there would be some excess capacity in shipbuilding, unless a large reserve were needed for meeting cyclical peaks, even if merchant shipbuilding were carried on in the long run at the rate proposed before the war; though this excess would be small in comparison with the surplus in 1937. In the case of labour it seems probable that, even allowing for increased efficiency, building at the rate suggested would make it possible to employ at least as many men as at the peak of 1937, and employment might well be considerably greater. Twenty-four per cent of the insured workers in shipbuilding were unemployed in June 1937, so that an increase of even 10 or 15 per cent in the number employed would have reduced the persistent surplus of labour in the industry to comparatively small dimensions.

All this, of course, is pure hypothesis. If there is a plan to ensure

¹ Estimate quoted in a paper read to the Institute of Naval Architects by Sir Archibald Hurd, March 1940.

² *Britain in Recovery*, p. 353. 1938.

³ *The Times*, 5.8.42. In view of the uncertainty of the future no allowance has been made for changes in the demand for warships.

that the output of ships is somewhere near the level considered before the war to be desirable, and still more if this plan is designed to ensure a steady flow of orders for ships, there is no reason for pessimism over the future of the British shipbuilding industry; and there is no reason to think that under a plan of this kind the North-east Coast shipbuilders would not be as prosperous as firms in any other part of the country. But there is no plan, and at the moment of writing there is no sign that one will be made. The general expectation on the North-east Coast is that a period of high activity immediately after the war will be followed by a relapse into the conditions of the 'thirties, aggravated by the increase in building capacity which has occurred during the war and by the increased number of apprentices, and possibly by the retention in the industry of some of the workers who have come in during the war from other occupations. Unless a definite plan for shipbuilding and marine engineering is adopted there is no reason to suppose that this anticipation will prove incorrect.

THE MAIN DISTRICTS

Bearing in mind these considerations on the probable future of shipbuilding, marine engineering, and mining it is possible to make rough forecasts of the position in each of the main areas of the North-east Coast, omitting the main part of the coalfield, which has already been covered. The possibility of converting the Royal Ordnance Factories to some peace-time use or of developing stronger measures than before the war for encouraging the growth of new industries on the North-east Coast can be left aside for the moment—the problem is to assess prospects in the absence of special new Government measures.

As before the war, the area which seems likely to do best is the part of Tees-side centred round Middlesbrough, Stockton, and Darlington, omitting the Hartlepoons. The chemical industry seems likely to expand, to the advantage of Stockton, though some of the expansion may well occur in the new works on Tyneside. Darlington engineering firms are very largely concerned with export trade, and there is naturally some uncertainty on this account. The general impression given by interviews at Darlington was that employment after the war and the first rush of reconstruction should settle down at about the level of the best years of the 'thirties. There are signs of expansion in some Darlington industries; one firm is planning to produce a finer type of casting than before the war in order to compete in markets formerly occupied by German and Swiss firms, and constructional engineering firms at Darlington, as well as round Middlesbrough, should benefit from the expansion of building after the war and possibly from orders for overseas development. The

iron and steel industry on the North-east Coast has expanded little during the war—in terms of employment it has merely taken up the slack which existed in 1939—and there appears to have been little change in capacity. The same is true to a substantial extent of the rest of the British iron and steel industry;¹ there has not been the same rapid expansion as between 1914 and 1918, and there should not be the same problem of excess capacity after the war. If the iron and steel manufacturers in the Middlesbrough district can hold their own against the rest of the industry (and there is no reason to think they cannot) they should be able to maintain at any rate the pre-war level of employment.

Taking Stockton, Darlington, and Middlesbrough together, with their surrounding districts, it seems probable that the situation of their main industries after the war will be very much the same as before, always with an element of uncertainty due to the difficulty of forecasting export trends or trends in shipbuilding. A considerable expansion of building and possibly of other 'local' industries is probable in this district as elsewhere, and when account is taken of all factors it is possible that these three towns will be rather more prosperous than before the war. In view of the high level of unemployment experienced in parts of this district during the 'thirties the prospect of a return to anything resembling pre-war conditions is scarcely encouraging; the best that can be said is that it does at least give these three towns an advantage over other parts of the North-east Coast.

The prospects for Tyneside are less clear, but give considerable ground for pessimism. There are undoubtedly prospects of expansion in some industries. The new chemical and clothing factories have been mentioned; clothing firms on the Team Valley Estate are expected to expand after the war, providing employment mainly for women and girls. The management of the Team Valley Estate expects to resume the general expansion which was proceeding before the war, though the loss of some firms since 1939 may make it necessary to start again from a lower level. A few furniture firms are known to have plans for expansion to meet the demand which is likely to result from the post-war building programme, and building itself will presumably employ more. One or two engineering firms are considering new developments; electrical engineering is likely to continue to grow, and Vickers-Armstrong have developed a certain amount of light engineering work during the war and are considering several new lines for the future. There is some possibility of expansion in the food trades; one food-packing firm which was growing before the war is known to be thinking of extending both its range of products and the area which it serves.

¹ Chapter II, p. 45.

Even without any special official encouragement expansion in these directions would go some way to maintain employment on Tyneside. But the prospect of expansion in some of the minor Tyneside industries has to be offset against the possibility of a very severe fall in employment in some of the main industries. The position in mining and shipbuilding has been discussed. In general engineering, the biggest group of manufacturing industries on Tyneside, the dominant factor is the future of Vickers-Armstrong. This one firm employed nearly 55 per cent of all insured workers in employment in general engineering on Tyneside in June 1934, and nearly 75 per cent in June 1937; it accounted for nearly 95 per cent of the total increase in employment in general engineering on Tyneside between these two dates. In spite of the efforts which are being made to develop new lines the main basis of this firm's work remains armaments in one form or another, and the prospects of employment in it are clearly unfavourable. It must be remembered that the great majority of workers in general engineering, shipbuilding, and marine engineering are men; industries in which expansion is likely employ, very largely, women, boys, and girls.

The position of Sunderland and the district round it has been described in a Survey report as 'a nightmare'. As on Tyneside, there are certain possibilities of expansion. A firm which was making mobile cranes and kitchen equipment for catering establishments before the war has developed a new line in agricultural machinery, and hopes to provide permanent new employment for some hundreds of workers. Furniture firms are also considering expansion. But the dominant industry in and around Sunderland remains shipbuilding and marine engineering, and local opinion at present sees no reason to expect that these two industries will not fall back into the same depressed condition—in the sense both of persistent depression and of severe cyclical slumps—as before the war. The position in the Hartlepoons is very much the same as at Sunderland.

THE PROBABLE LEVEL OF UNEMPLOYMENT

It is clear that the North-east Coast as a whole is unlikely to cease to be depressed merely as a result of what has happened during the war. It is possible, and even probable, that after the first years of reconstruction unemployment will return to the levels of the 'thirties. The Northern Industrial Group suggest that new employment may have to be found for about 100,000 workers. This is 15,000 or 20,000 more than the actual figure of excess unemployment at the peak of the trade cycle in 1937. It is obvious that no accurate estimate of the prospective surplus can be made; as a rough working estimate the Northern Industrial Group's figure is perhaps as good

as any. In addition to the problem of persistent unemployment there will be the problem of exceptional sensitivity to the trade cycle; the high degree of sensitivity of industries in the North-east to cyclical fluctuations has been in no way affected by the war.

REGIONAL AND INDUSTRIAL PLANNING

The first need of the region is clearly a plan, or rather a series of national, industrial, and regional plans in which the North-east Coast would have its appropriate place. The sensitivity of industries in the North-east to cyclical fluctuations is part of the general problem of the trade cycle, and needs to be dealt with by a general anti-cyclical policy. The dependence of many North-eastern industries on export trade makes general British international economic policy particularly important to the North-east; from the point of view of this region the restoration of the relations established under trade agreements with Scandinavia and the Baltic countries, or the extent of international action to develop backward countries, are matters of vital importance. The future of shipbuilding and marine engineering, and to a less extent of coal, depends on the establishment of a specific plan for these industries. The North-east Coast needs in addition a special plan concerned with its own particular problems. The need is not simply to make national and regional plans which will solve the special economic problems of the North-east; it should be emphasized that it is at least equally important to put an end to the present feeling of uncertainty and insecurity on the part of individuals and local authorities in the region. A regional plan laying down definite lines of action, and co-ordinated with a series of national plans, would provide a solid foundation on which individuals and local authorities could base their own decisions; and it would be welcome for that reason even in the areas which the actual provisions of the plan might appear to benefit least.

INTRODUCTION OF NEW INDUSTRIES—AIMS AND METHODS

The main object of planning should be to encourage the introduction of new industries and the redistribution of population within the region, not to promote transfer to other regions. The social cost of transfer—the break-up of communities, the duplication of social capital, and the disadvantage to individuals—scarcely needs to be laboured. The North-east has, as the Northern Industrial Group put it, 'its own background, and a tradition of virility and independence which is an asset to the nation and should be preserved'. The Ministry of Labour's evidence to the Barlow Commission showed that in July 1937 there were 569,400 adult male insured workers in

the Northern Division,¹ but that at the same date the number of adult male insured workers in the whole of Great Britain who had first entered insured employment in the Northern Division was 631,400; some workers had moved into the Northern Division and others had moved out, and on balance there had been a net loss of 62,000, or nearly 10 per cent. While some movement out of the Northern Division may have been desirable, it is clear that every effort should have been made to render movement on this scale unnecessary. Experience before and during the war has shown that the North-east Coast is suitable for most of the industries which were expanding before the war and which are likely to expand again afterwards. Some of the disadvantages which remain, particularly the lack of some of the ancillary services or of types of labour which are available in the main centres of the light industries in the South, can be reduced by further development of trading estates or by special measures of training; many of them would naturally tend to disappear as more light industries accumulated and attracted ancillary trades. In the case of labour, the training of large numbers of women in factory work during the war and the experience of light engineering gained in the Royal Ordnance Factories and other munition works has done something to solve pre-war problems, and it has been suggested that the experience gained by workers transferred to munition factories in the Midlands and South may help in the same direction.

Three chief difficulties remain in the way of a policy of attracting new industries to the North-east. The easiest to deal with is a shortage of good housing, particularly for staff and key workers imported from other areas, and of sites developed as trading estates. A harder problem arises over transport. Transport to markets in London and the South is expensive (except for goods which can be sent relatively slowly by sea) and takes time. The railways are definitely opposed to anything in the nature of a flat charge for rail transport,² and there is clearly a risk that any widespread application of this principle might result in a serious drop in the efficiency of British industry as a whole; it is nevertheless worth considering whether a closer approach to a flat rate, regardless of distance, for both rail and road transport might not be practicable. Prices have been fixed for a number of commodities during the war on a basis which eliminates the disadvantage of distance to producers relatively remote from their markets, and the possibility of a similar system in time of peace deserves consideration. The problem of time in transit is of only limited importance in relation to goods traffic, since

¹ The Northern Division included Cumberland and Westmorland as well as the North-east Coast; it has now ceased to exist.

² See on this their evidence to the Barlow Commission.

the train services operating before the war made possible overnight delivery from Newcastle to London, and only slightly slower delivery from other points on the North-east Coast.¹ It is of more importance in relation to passenger traffic. The improvement of train services which was taking place before the war was of considerable advantage to the North-east Coast; the best day train, the *Silver Jubilee*, made it possible to have four hours in London during working hours by leaving Newcastle at 9.30 a.m. and arriving back at 9.30 p.m. The pre-war air service made it possible to leave Newcastle at 10 a.m., to stay three hours in London, and to arrive back at Newcastle at 5.35 p.m.; an acceleration of this service after the war would make contact between Newcastle and London comparatively easy.

The third difficulty which remains is the problem of certain mining villages of West Durham where the coal is worked out, and where there is no economic justification for the establishment of new industries. The South-west Durham Improvement Association, a body created in 1937 by the Commissioner for the Special Areas, has proposed a scheme for concentrating the population of villages of this kind into local centres—Bishop Auckland and Darlington are suggested—suitable for industrial development. The clearance and improvement of these derelict areas, as well as of a number of areas where further development is possible, is important as a means of attracting industry as well as for its own sake; the depressed appearance of parts of the North-east Coast has in the past acted as a definite deterrent to firms considering settlement in the region.

Whatever method is adopted to ensure full employment on the North-east Coast it is highly undesirable that the process of adjustment after the war should be as protracted as it threatened to be in 1939. Very much stronger measures will be needed than were applied then. It is important that local authorities and such voluntary organizations as the North-east Development Board² should continue to play a large part in the re-development of their own area; but there is no doubt that the central Government will have to take a very much larger share than before the war both in planning the area and in using inducements or other means of persuasion to accelerate new industrial development.

The main problem on the North-east Coast is unemployment among men, and it is important that proper account should be taken of this fact. Too little attention appears to have been paid to it in the efforts made to attract industry before the war; it has been pointed out that the majority of employees on the new trading estates were women and girls, and therefore that the estates had little direct effect

¹ *Survey of the Industrial Facilities of the North-east Region*, North-east Development Board, 1942.

² Recently re-constituted as the North-east Development Association.

on the area's main problem. At the same time, the possibility of introducing new women's industries should not be neglected. Whether or not it is desirable to raise the proportion of women in industry on the North-east Coast to the level usual in the rest of the country—there is some local feeling, with a great deal of justification, that it would not be desirable—experience both before and during the war has shown that many women for whom no industrial work was available in 1937 would welcome it. This would probably remain true even if full employment for men and an adequate system of social security made it unnecessary for any married woman to go out to work to support her family. More industrial work for women on the North-east Coast is desirable in itself and, as in South Wales and Cumberland, the sight of flourishing new factories and of growth and activity may prove an effective means of attracting new firms in men's industries.

USE OF THE ROYAL ORDNANCE FACTORIES

If new industries are to be attracted it is an obvious suggestion that some use should be made of the three Royal Ordnance Factories in the region. The Northern Industrial Group suggests that two of these might be converted to peace-time uses if they were not required for further munition production, 'though the buildings are not ideally suited'. As the Group points out, there will be few modern factories vacant on the North-east Coast at the end of the war; 'there has been practically no development', as they say, 'in capacity for such things as aircraft, engines, accessories, wireless, electrical and other apparatus on a scale at all comparable with what has been done in other areas'—no development, that is, in the type of production which in other parts of the country is being carried on in good and adaptable factories built since the war. The North-east Coast has not benefited, like Lancashire, from the availability of a supply of old factories abandoned by the staple industries of the region, but adaptable for use in newer industries. It is important that as much use as possible should be made of such buildings as are available, and the future of the two Ordnance Factories to which the Group refers should be considered from this point of view.

The future of the third Ordnance Factory, engaged on shell-filling, is very uncertain. It is in an area relatively difficult to reach from most of the districts where the greatest concentrations of unemployment are likely to be found, and the nature of its buildings makes it extremely difficult to adapt for normal industrial use. If it is not needed for further munition production its site might be largely cleared, and the existing administrative buildings, canteens, maintenance shops, and road, rail, and other services could be used as a basis for a new trading estate. In view of the lack of modern factories

on the North-east Coast this possibility deserves consideration. The difficulty of inaccessibility might be overcome by linking up the development of this site with the clearance and re-development of other parts of the North-east Coast, particularly Tyneside, Sunderland, and the derelict areas of the coalfield. The North-east Coast has one of the most formidable housing and planning problems in England, on account of the very extensive overcrowding; Durham and Northumberland were the two counties of England and Wales where overcrowding was worst in 1936, and the six most overcrowded county boroughs were Sunderland, Gateshead, South Shields, Tyne-mouth, West Hartlepool, and Newcastle. The solution of this problem might well be linked up with the establishment of a new industrial town near the present filling factory. An alternative suggestion is that the factory, or part of it, might be used as a large regional residential training centre, possibly in conjunction with a new technical institute or college. Survey reports suggest that a centre of this kind is greatly needed on the North-east Coast, particularly in connexion with the expansion of building and the development of new industries, and the present site of the filling factory, and at least some of its buildings, would be suitable for this purpose.

NOTE ON LATER DEVELOPMENTS

The Distribution of Industry Bill (February 1945) provides for a North-eastern Development Area, including the former Special Area together with certain districts to the north of it and with Darlington and Tees-side; in effect, the whole industrial and mining area of the North-east Coast. Among other later developments, the Government's decision to establish the headquarters of the new Ministry of National Insurance at Newcastle is particularly important; in addition to providing local employment running into some thousands, it is significant as a large step towards breaking up the over-centralization of national administration in London.

CHAPTER VI

WEST CUMBERLAND

THE PRE-WAR DEPRESSION

THE main part of the West Cumberland Special Area¹ depends traditionally on coal mining and iron and steel. Thirty-nine per cent of the insured workers in employment in 1937 were engaged in coal and iron-ore mining, pig-iron manufacture, and steel smelting and rolling. Coal mining depends to a great extent on iron and steel manufacture; 35 per cent of the coal mined in Cumberland before the war was consumed in local industries, and most of the remainder was sold locally in markets whose purchasing power depended mainly on the demand for iron and steel. The iron and steel industry in its turn is dominated by two firms, the Millom and Askam Hematite Iron Company, which owns blast-furnace works in the south of the Special Area and iron-ore mines in the centre, and the Workington Iron and Steel Company, a subsidiary of United Steel Companies, which owns blast-furnace works, iron-ore mines, and coal mines, and is also the only steel producer in the area. As a result of the concentration of control in the iron, steel, and coal industries the economic position of the main industrial district in the Special Area, from Maryport to below Whitehaven, has in the past depended overwhelmingly on the progress of the Workington Company.

The acute depression of West Cumberland before the war was due to the contraction of employment in the whole of the iron, steel, and coal group of industries. Between 1924 and 1937 employment fell in coal mining by 4,500, in iron-ore mining by nearly 1,700, and in pig-iron manufacture by 600, a total of 6,800. Employment in steel manufacturing rose between these two years, but fell over the period between the two wars as a whole; the number of workers employed in steel manufacture in the Workington exchange area fell from about 3,200 in 1925 to between 1,950 and 2,000 in 1925 and 1927, and about 1,850 in 1937. Even if the figures for 1924-37 are taken at their face value they show that the fall of 6,800 in employment in coal and iron-ore mining and pig-iron manufacture was offset by a rise of no more than 4,200 in all other trades together, including steel manufacturing. The total number of workers in employment fell from 30,700 in 1924 to 28,100 in 1937, and the number of men

¹ The main part of the West Cumberland Special Area is roughly defined by a line from the mouth of the river Eden to Helvellyn, and thence to the head of the Duddon Estuary. The area also includes Alston with Garrigill Rural District, a lead-mining area with an insured population in 1936 of 400, situated in the east of the county.

EMPLOYMENT AND UNEMPLOYMENT IN WEST CUMBERLAND, 1924-37

From *West Cumberland: A Survey of Industrial Facilities*, by G. H. J. Daysh; published by the Cumberland Development Council, 1938.

TABLE 39. TOTAL NUMBER OF PERSONS INSURED,
UNEMPLOYED AND EMPLOYED UNDER THE UNEMPLOYMENT
INSURANCE ACTS IN WEST CUMBERLAND SPECIAL AREA, 1924-37

Year	Insured	Unemployed	Employed	Employed in Great Britain
1924	37,150	6,416	30,734	10,359,000
1927	36,070	6,346	29,724	10,837,000
1929	33,690	6,356	27,334	10,706,000
1932	35,340	15,577	19,763	9,773,000
1937	36,870	8,774	28,096	12,094,000

TABLE 40
TOTAL NUMBER OF MALES AND FEMALES IN EMPLOYMENT,
1924-37

Year	Males	Females
1924 . . .	27,473	3,261
1927 . . .	26,511	3,213
1929 . . .	24,049	3,287
1932 . . .	16,609	3,154
1937 . . .	23,960	4,136

TABLE 41
THE CONTRACTING INDUSTRIES

Industry	Number of insured persons employed			Number employed in 1937 as a percentage of 1924
	1924	1929	1937	
Coal Mining	10,662	8,825	6,130	57.3
Iron-ore Mining and Quarrying	3,324	2,931	1,657	50.0
Pig-iron Manufacture	1,564	1,251	961	61.7
Total of above	15,550	13,007	8,748	56.1
Public Works Contracting	494	209	304	61.5
Total	16,044	13,216	9,052	56.6

TABLE 42
THE EXPANDING INDUSTRIES AND SERVICES

Industry or Service	Number of insured persons employed			Number employed in 1937 as a percentage of 1924
	1924	1929	1937	
Steel Smelting, etc.	1,724	1,585	2,335	136
Building	1,373	1,178	1,867	136
Hotel, Boarding-House, etc., Service	611	825	1,300	213
Distributive Trades	2,431	2,707	3,318	136
All other Industries and Services	8,551	7,823	10,224	119
Total of Above	14,690	14,118	19,044	126

employed fell still more, from 27,500 to 24,000. The number of women employed increased from 3,300 to 4,100.

Cumberland has a high rate of natural increase, and as a result of the declining level of employment there was simultaneously severe unemployment and considerable migration to other parts of the country. About 29,000 people, equivalent to $19\frac{1}{2}$ per cent of the 1935 population, are estimated on balance to have left the West Cumberland Special Area between 1921 and 1935; 19 per cent of the insured population were unemployed at the peak of the trade cycle in 1929, and 24 per cent at the next peak in 1937. Allowing for 'normal' unemployment, and for unemployable workers still recorded as seeking employment, it is estimated that in 1937 the number of men and boys over 16 genuinely seeking work in West Cumberland was at least 4,000 greater than the number of jobs available or likely to become available in the foreseeable future;¹ 4,000 is equivalent to about an eighth of all the insured male workers in West Cumberland at that date. Cyclical unemployment in West Cumberland has been severe, as might be expected in an area dependent on coal, iron, and steel, with the holiday trades as an important subsidiary industry; 44 per cent of the insured population were out of work in 1932, and the fall from the peak of the boom to the trough of the depression was very much greater in West Cumberland than in the country as a whole.

In spite of the increasing employment of women in the last years before the war, opportunities of industrial work for women in West

¹ Estimate from G. H. J. Daysh: *A Survey of Industrial Facilities*.

Cumberland remained limited. In Cumberland generally the proportion of women aged fifteen or more who were occupied according to the Census definition in 1931 was 28 per cent, against 35 per cent for the whole of England and Wales. In 1937 there were 14 insured women in West Cumberland to every hundred insured men,¹ against 37 for all Great Britain.

THE PROCESS OF ADJUSTMENT; EFFECTS OF THE WAR

The solution of West Cumberland's problems was attempted before the war on very much the same lines as in South Wales or on the North-east Coast, and with greater success. The Cumberland Development Council was formed in 1935, and in 1937 a West Cumberland Industrial Development Company was founded, with powers very similar to those of the Trading Estate Companies in other depressed areas, though with slightly different objects. The policy in Cumberland was not to establish a large and fully equipped trading estate, or estates, but to develop a number of small sites in different parts of the county in order to spread industry and to make it unnecessary for workers to travel to the extent which has been necessary, for example, at Treforest. As a result of co-operation between the Development Council, the Development Company, and the Commissioner for the Special Areas, a number of new industries were attracted before the outbreak of war. Clothing, caps and berets, hosiery, buttons, woollen and rayon goods, textile trimmings, umbrellas, processed paper, upper leather, surgical appliances, and dried and preserved fruits and juices were some of the products made. Around two thousand workers have been employed in these new works; about a quarter of the workers are men.

The threat of war and its outbreak led to a further increase in employment. Steel manufacturing expanded, and a number of important additions and improvements were made at the local works; new works were built for light metal manufacturing, stamping, and forging, and other industries which came in included clothing, boots and shoes, and a variety of small firms making other types of consumers' goods. Explosive and filling factories—Royal Ordnance Factories—were built some way outside the chief industrial area, and a variety of Government establishments were set up in the north of the county. The surplus of unemployed labour was absorbed—between a half and three-fifths of the employment in the new works appears to have been for men—and more women were drawn into industry; a number of workers came in from other areas, including particularly men who had left Cumberland in the time of depression.

¹ Aged 16-64.

PROSPECTS: THE TRADITIONAL INDUSTRIES

It seems unlikely that the chief traditional industries will employ more than before the war, and they may well employ fewer. The iron-ore which is the basis of the local iron and steel industry is coming in sight of exhaustion. The time for which reserves are likely to remain available can be measured in decades, and it is beginning to be possible to speak of a race between the exhaustion of the ore and the efforts of national and local development organizations to bring in new industries. The efficiency of both ore mining and pig-iron manufacturing was increasing before the war, and it seems doubtful whether a further fall in employment can be avoided. The fall may not be great in the immediate future in the case of iron-ore mining, in which the scope for further increases in efficiency is limited.

The Workington Iron and Steel Company has strengthened its steel manufacturing side during the war, though a large part of the Company's wartime development is purely temporary. The long-term prospects for steel manufacturing in Cumberland are very uncertain. The acid steel made here is expensive, and has only a limited market. Its high qualities ensure that it will always be in demand; but the steadily improving qualities of the cheaper basic steel keep the normal demand for acid steel within strict limits. Acid steel is in special demand for armaments, and this fact has to be borne in mind in considering the possibility of maintaining after the war the output reached between 1937 and 1939. With the help of the improvements made during the war the pre-war output may be maintained; it would clearly be unwise to reckon on an increase. The demand for steel is extremely sensitive to the trade cycle, and there is a danger that the wide fluctuations of output which occurred before the war may be resumed; the Workington Company has altered its organization to ensure that so far as possible the Company's subsidiaries, particularly its coal mines, are not involved in fluctuations due to changes in the demand for steel.

The output of coal in Cumberland fell before the beginning of rearmament from 2,000,000 tons in 1929 to 1,300,000 in 1937, and then recovered to 1,600,000 tons in 1938 and 1939. The Cumberland field is old and working conditions are difficult. Costs at the outbreak of war were higher and output per man-shift lower than in any other field in the country. Some improvement in this respect may be expected as a result of increased mechanization of the field during the war, and in view of this and of market prospects it is perhaps not unreasonable to hope that at least the 1937 level of output will be maintained. A higher level of output could be expected only in the event of an expansion in local markets. It seems doubtful whether the iron and steel industry, the chief local industrial market, will

require more coal than in 1937. The demand from the new expanding industries, though useful, seems likely to be limited. Output at the level of 1937 would imply a somewhat lower level of employment, at least after the effect of war conditions has been overcome.

THE NEWER INDUSTRIES

The main hope for the future is in the new industries, including those which have come in since the war or which may be established in future, as well as those established before September 1939. All but one of the firms established before the war have survived, and it seems safe to assume in addition that there will be employment for at least some hundreds of workers in the new factories set up during the war. There is a further possibility that the new Royal Ordnance Factories may remain in use, either for munitions or for civilian purposes. There is some reason to think that at least one of these factories may be taken over after the war by a private firm, and may continue to provide something approaching its high wartime level of employment. The Cumberland Development Council has a number of applications from smaller firms seeking new factories, which would be willing to move in as soon as buildings are available. The prospect of an expansion of the holiday industry in the country as a whole makes a further expansion in the Lake District likely. There may be some development of the tourist trade at a few points along the coast; a beginning was made before the war at Seascale. There are other more nebulous possibilities. A use might be found for one or more of the new Government establishments in the north of the county, and one report suggests that Cumberland would have many advantages as a centre of civilian air services. There is more solid ground for assuming that several hundred more men will be employed in the building trades than before the war.

Leaving out of account the possibility that use may be made of the Royal Ordnance Factories and other Government establishments, as well as some of the remoter hopes of new employment, it seems that the permanent new employment which has become available in West Cumberland since 1937 may be enough to absorb a third or a half of the persistent surplus of unemployed men and boys at that date, and to allow of a considerable net increase in the number of women engaged in industrial work. This is clearly a substantial contribution towards the solution of West Cumberland's problems, especially since a further permanent addition to employment, of uncertain size, may be expected in at least one of the Government works. On the other hand, there has been some natural increase of the working population and return of emigrants since 1937, and the possibility of a further fall in employment in the main traditional industries must be borne in mind.

ECONOMIC PROSPECTS: CONCLUSIONS

On balance, it seems probable that if no great change is made in the pre-war methods of controlling the location of industry—in West Cumberland's case, if the Development Council remains in existence, and some or all of the Special Areas legislation continues to operate, but nothing further is done—West Cumberland will be considerably better off a few years after the war than in 1937, but less well off than in 1929, at the previous cyclical peak. Many more women are likely to be employed in any case. There may be some net increase in the employment of men; but unemployment among men and boys may well remain heavier than in 1929. Unemployment among workers of both sexes together might in good years be about the 1929 level of 19 per cent. It must be remembered in addition that West Cumberland's industrial structure will continue to render it liable to severe cyclical depressions.

Though depression in West Cumberland may not be as severe as in the worst years of the 'thirties, it is evidently likely to be severe enough to call for an extension and intensification of the measures to bring in new industries which were beginning to be applied before the war. The measures applied then were chiefly successful in attracting women's industries. Valuable as these are—more permanent industrial employment for women is still needed in West Cumberland, and women's industries serve in addition to create a general atmosphere of activity and progress which is an excellent advertisement for the area—they are obviously of only secondary importance. The main need is for new industries employing men, and pre-war experience suggests that the attraction of industries of this kind will require more far-reaching measures than were applied in the past.

The chance that such measures may be rapidly successful is very much greater than it was in 1929, or even, apart from the threat of war, in 1937. The existence in Cumberland of new light industries which are operating successfully, is in itself a factor of the first importance; West Cumberland has been put on the map for employers in industries of these types. The surveys made before and during the war, the experience accumulated over several years by the Commissioner for the Special Areas, the Development Council, and the Industrial Development Company, the effect of the war in increasing the number of men and women in West Cumberland with factory experience, and the gradual growth of a supply of modern factories, are all likely to be of great value in any future development programme. It has been proved that modern light industries can flourish in Cumberland, a procedure for attracting these industries has been worked out, and the facilities available for new industries have been improved.

PLANNING, TRANSPORT, AND HOUSING

If measures to promote an economic revival in West Cumberland are to be fully effective, attention will have to be paid to a number of more general questions. The first is the problem of the area to be planned. The pre-war Special Area, like the other Special Areas, was too small to serve its purpose efficiently. It is true that there was, and is likely to be, a distinction in terms of prosperity between the districts inside the Special Area and those outside. Carlisle has a well-balanced industrial structure, which has not been disturbed by the war, and has about the national proportion of women in insured occupations; it was moderately prosperous before 1939, and is unlikely to be depressed in future. The rest of Cumberland outside the Special Area experienced down to the war the difficulties common to all agricultural areas, together with the problems arising out of the special character of the Lake District as a holiday resort and potential National Park; but there was not the same problem of depression as in West Cumberland and Alston. In spite of this difference in prosperity the distinction between the Special Area and the rest of Cumberland was highly artificial, since there were many problems of both economic and physical planning which cut across the boundary. Two problems of this kind are of particular importance for the future. Developments during the war in and around Carlisle are of considerable interest to the Special Area, and the Lake District, which the boundary of the Special Area divides, should obviously be considered as a single unit.

If the Special Area was too small, the region in which Cumberland has been included during the war is, from Cumberland's point of view, unquestionably too big. The North-western Region includes Lancashire, Cheshire, and Westmorland, as well as Cumberland, and its capital is at Manchester. Whatever its merits as a wartime expedient, it is clear that this arrangement would be unsatisfactory in peace. There is too little real connexion or common feeling between Cumberland and the main part of Lancashire for a permanent connexion to be justified. The best permanent arrangement would probably be to form Cumberland and Westmorland into a planning region on their own, and to leave the regional planning authority free to establish joint planning machinery with the authorities of neighbouring regions—a connexion with the authority or authorities on the North-east Coast would be most natural.

If industrial development is to be encouraged improved transport facilities are urgently needed. Faster rail transport is wanted for passengers and goods from the industrial area to the South, and from Carlisle and West Cumberland to the North-east Coast. Better road communications from West Cumberland to the South are also

required. A scheme of road improvements has been prepared during the war and approved by the County Council.

An extensive programme of re-housing and re-development is also needed, even from a purely economic point of view. The general standard of housing in West Cumberland is low, and there is a particular lack of good middle-class housing of the type which is wanted by the managers and other officials of new factories. Poor housing conditions and the generally depressed appearance of many parts of West Cumberland have in the past been a definite handicap in attempts to attract new industries. Apart from the standard of housing, many of the existing dwellings are wrongly sited in relation to places of work. New industrial development is occurring at some distance from a number of the older villages. If the new Royal Ordnance Factories remain in use after the war a substantial shift of population from the centre of the existing industrial area to its fringe will be desirable; at present the majority of workers in these factories have to travel from several miles away.

NOTE

Under the Distribution of Industry Bill the West Cumberland Special Area is to be reconstituted as a Development Area: the new Area will exclude Alston.

CHAPTER VII

LANCASHIRE

(1) LANCASHIRE AS A WHOLE

THE Lancashire industrial area can be defined in a number of ways. For the purposes of the Nuffield Survey it was taken to include the County of Lancashire, together with part of the Wirral Peninsula, the northern part of Cheshire, and the Glossop and New Mills district of Derbyshire. Not all of this area was covered in detail; but the Survey was carried far enough to justify a number of general conclusions about the problems which are likely to arise after the war.

The course of industrial development before the war in Lancashire as a whole—leaving out of account for the moment the parts of the Survey area outside the county—can be seen from Table 43. The largest single groups among the manufacturing and extractive industries in Lancashire in 1937 were cotton, with the subsidiary group of textile finishing trades, general engineering, and coal mining. The number of workers attached to these groups had fallen since 1923 by not far short of 200,000, the equivalent of about $11\frac{1}{2}$ per cent of the total insured population of Lancashire in 1923. The number of workers engaged in several other industries had also fallen; ship-building, dock and harbour service, and dressmaking and millinery are the chief cases. These declines were offset by substantial increases (in an absolute as well as a proportional sense) in the service industries, building, road transport, clothing, electrical engineering and apparatus, motor engineering, printing and publishing, furniture, and a variety of miscellaneous trades. On balance, the number of insured workers in Lancashire increased by 8 per cent between 1923 and 1937, and the number of insured workers in employment increased by 10 per cent.

Neither of these figures compared well with the corresponding figures for the country as a whole. The number of insured workers in Great Britain increased by 22 per cent over the same period, and the number of insured workers in employment by 24 per cent. There was considerable migration from Lancashire to parts of the country where prospects were better; between 1927 and 1931 the average annual loss by emigration was equivalent to about 0.6 per cent of the total population, and even between 1931 and 1936, when the high level of unemployment in other parts of the country restricted emigration, about $\frac{1}{2}$ per cent of the county's population left it on balance each year. Emigration would undoubtedly have been greater

if it had not been for the composition of the labour force employed in Lancashire, particularly in the cotton districts. An unusually high proportion of women work in industry; at the Census of 1931 there was only one county of England and Wales, London, in which the proportion of women and girls aged fifteen or over who were occupied (according to the Census definition) or retired was higher than in Lancashire. The women working include considerable numbers of married women. For most women who become unemployed there can be no question of transferring to another area. Even in the case of men, the fact that an unemployed man's wife may still be working, and that the family income has not been reduced to the level of unemployment assistance, is likely to be a deterrent to transference. A sample inquiry in 1935 showed that in parts of Lancashire where the industrial and social structure was of a kind common in other parts of the country about 60 per cent of the workers then unemployed could be regarded (optimistically) as transferable to work in other areas. In the chief cotton districts the proportion was little over 40 per cent.¹

In spite of emigration unemployment in Lancashire was high before the war, even as recorded by the Ministry of Labour's statistics. The number of excess unemployed in 1937 was 138,000, the equivalent of about $7\frac{1}{2}$ per cent of the total number of workers insured,² and cyclical unemployment had also been severe; unemployment in Lancashire rose in the early 'thirties considerably more than in the country as a whole. It must in addition be remembered that Lancashire is one of the counties in which unrecorded or only partially recorded unemployment is most extensive. The authors of the *Industrial Survey of the Lancashire Area*, carried out for the Board of Trade in 1932, found by a sample inquiry among cotton-weaving firms at Blackburn that over a period of six months in 1931, in which the nominal percentage of unemployment among workers at the mills concerned was $16\frac{1}{2}$ per cent, the true proportion would have been 26 per cent; the fall in demand had been met by reducing the number of looms operated by each weaver, not by dismissals. Figures for 1937 and 1938 have already been quoted,³ showing that short-time working recorded as such in June 1938 was equivalent to total unemployment for $5\frac{1}{2}$ per cent of all insured cotton workers, with no allowance for the additional concealed unemployment due to reductions in the number of looms worked by each operative. Lancashire is in addition an area where wages—though not necessarily family incomes, owing to the high proportion of women working—are in many industries low. The average earnings of adult men in the

¹ *Readjustment in Lancashire*: Economics Research Section, University of Manchester, pp. 25-9.

² Chapter I, p. 6, and Tables 8 and 9.

³ Chapter I, p. 9.

TABLE 43—LANCASHIRE
ESTIMATED NUMBER OF INSURED WORKERS AGED 16-64:
JULY 1923 AND JULY 1937

Industry	Estimated No. of insured workers aged 16-64		Increase (+) or Decrease (-) from July 1923		No. in each industry as % of total insured July 1937	
	July 1923	July 1937	No. (000's)	%	Lancashire	Great Britain
Cotton	449,340	333,210	- 116	- 26	18.2	3.1
Textile Finishing	44,040	39,830	- 4	- 10	2.2	0.7
Rayon and Silk	1,710	15,670	+ 14	+ 816	0.9	0.6
Wool	8,310	8,870	nil	+ 1	0.5	1.7
Hosiery	2,010	6,800	+ 5	+ 238	0.4	0.9
Tailoring	27,080	32,880	+ 6	+ 21	1.8	1.6
Shirts, Collars, etc. . . .	9,220	25,240	+ 16	+ 174	1.4	0.6
Dressmaking and Millinery	16,330	8,260	- 8	- 49	0.5	0.8
Boots, Shoes, etc.	10,150	15,070	+ 5	+ 48	0.8	1.0
General Engineering, etc.	123,890	93,390	- 31	- 25	5.1	4.6
Electric Cable, Apparatus, Lamps, etc. . . .	13,950	29,060	+ 15	+ 108	1.6	1.3
Motors, Cycles, Aircraft . .	15,050	26,370	+ 11	+ 75	1.4	2.6
Electrical Engineering . .	14,630	24,170	+ 10	+ 65	1.3	0.9
Miscellaneous Metal Industries	9,900	16,580	+ 7	+ 67	0.9	2.0
Shipbuilding, etc.	23,280	14,800	- 8	- 36	0.8	1.2
Marine and Constructional Engineering	3,120	4,570	+ 1	+ 46	0.3	0.7
Non-ferrous Metal Manufacturing	11,600	13,140	+ 2	+ 13	0.7	1.0
Iron and Steel Manufacturing (including Blast Furnaces)	14,110	12,230	- 2	- 13	0.7	1.5
Coal Mining	111,500	69,700	- 42	- 37	3.8	6.6
Other Mining and Quarrying	4,040	4,000	nil	- 1	0.2	0.8
Non-metalliferous mining Products	640	5,720	+ 5	+ 794	0.3	0.4
Brick, Tile, and Pipe	4,400	8,700	+ 4	+ 98	0.5	0.8
Pottery, Earthenware, etc. .	1,130	1,720	- 1	- 52	0.1	0.6
Glass, Glass Bottles	13,680	16,050	+ 2	+ 17	0.9	0.4
Chemicals, etc.	41,710	40,530	- 1	- 3	2.2	1.7
Bread, Biscuits, Cake	24,760	29,990	+ 5	+ 21	1.6	1.3
Miscellaneous Food Industries	10,460	16,850	+ 6	+ 61	0.9	1.0
Drink Industries	9,350	11,030	+ 2	+ 18	0.6	0.8
Cocoa, Chocolate, etc. . . .	4,580	6,170	+ 2	+ 35	0.3	0.6
Printing, Publishing, etc. . .	23,890	32,470	+ 9	+ 36	1.8	2.1
Rubber	17,580	20,500	+ 3	+ 17	1.1	0.5
Furniture, etc.	8,470	16,870	+ 8	+ 99	0.9	1.1
Leather, Leather Goods . . .	7,700	9,710	+ 2	+ 26	0.5	0.6
Paper, Paper Board	9,040	9,550	+ 1	+ 6	0.5	0.5
Cardboard Boxes, Paper Bags, Stationery	5,550	9,480	+ 4	+ 71	0.5	0.5

TABLE 43—(Contd.)

Industry	Estimated No. of insured workers aged 16-64		Increase (+) or Decrease (-) from July 1923		No. in each industry as % of total insured July 1937	
	July 1923	July 1937	No. (000's)	%	Lancashire	Great Britain
Building	69,610	99,390	+ 30	+ 43	5.5	7.7
Public Works Contracting	8,900	21,050	+ 12	+ 136	1.2	2.2
Electrical Wiring and Contracting	1,340	3,540	+ 2	+ 164	0.2	0.3
Dock, Harbour, Canal, Service	41,240	36,850	- 4	- 11	2.0	1.2
Tram and Bus Service	10,320	25,060	+ 15	+ 143	1.4	1.5
Other Road Transport	20,020	23,970	+ 4	+ 20	1.3	1.5
Distribution	164,170	246,610	+ 82	+ 50	13.5	15.2
Laundries, Cleaning, etc.	9,080	16,330	+ 7	+ 80	0.9	1.3
Gas, Water, Electricity	18,140	24,470	+ 6	+ 35	1.3	1.6
Hotels, etc.	25,580	43,330	+ 18	+ 69	2.4	3.3
All other Industries and Services	232,060	257,040	+ 25	+ 11	14.1	17.1
Total, all Industries and Services	1,696,660	1,826,320	+ 130	+ 8	100.0	100.0

From the Evidence of the Ministry of Labour to the Barlow Commission.

cotton industry were 49s. 9d. in October 1935 and 50s. 9d. in October 1938; neither figure was greatly affected by short-time.

Though Lancashire was unquestionably depressed before the war, it is clear from Table 43 that there was never the same difficulty in attracting new industries here as in some other depressed districts. New development was unevenly spread—the most rapid growth of new industries and service trades took place outside the districts in most need of them—but was considerable in total. Lancashire is traditionally a main centre of some of the industries which were most prosperous before the war, particularly clothing and electrical engineering and apparatus, and in trying to attract other developing industries has had a number of advantages. There is a supply of labour used to factory life, and particularly suitable for work in light industries. There is a very large local market, and good commercial facilities and communications. There was in addition down to the war a supply of disused textile factories capable of being converted for new industries. Lancashire has benefited from its supply of disused factories since well back in the nineteenth century. The Rossendale Valley slipper and shoe industry, one of the most prosperous sections of the boot and shoe industry in Great Britain, developed in the 'seventies and 'eighties in old cotton mills. 'Even

at the present time,' as the authors of the *Industrial Survey of Lancashire* noted, 'there is no slipper factory in Rossendale which was built in its entirety for that purpose.' Upwards of 200 disused spinning mills and weaving sheds were taken over for new industries between 1931 and 1939.¹ A Lancashire Industrial Development Council was formed in 1930 to capitalize these advantages. It was formed principally by business interests, though representatives of local authorities were also included, and after some initial difficulty it achieved considerable success in promoting new enterprises.

Lancashire also gained something, though not much, from the Special Areas legislation. A site company was formed under the Act of 1937 to provide trading estate facilities for new industries. Little use was made of these facilities directly—two proposals were under consideration at the outbreak of war—but it seems that they served as a bait. Several firms were induced to take an interest in Lancashire as a possible area for new developments by the offer of special conditions available through the site company, and then decided to buy sites outright when they came to inspect them. Several Lancashire local authorities provided facilities similar to those available under the Special Areas Acts. The most comprehensive were those available at the Liverpool Corporation's Speke Estate, where industrialists were able to rent factories, to take up cheap building loans, and to buy land on a 999 years' lease at from a quarter to a half of its commercial value.² As is shown below, this particular case provided an interesting illustration of the limitations of local action of this type, unsupported by national action; in practice, the facilities at Speke were used principally by firms moving out of the centre of Liverpool, not by newcomers from other areas.

The result of Lancashire's advantages in attracting new developments, and of the efforts of the Lancashire Development Council and other local bodies, was a rate of growth of new industries very much greater than was achieved in any other depressed area. About 21 per cent of the new industrial developments reported by the Board of Trade between 1933 and 1938 went to the North-western region, which had about 14½ per cent of the population of Great Britain in 1931.³ The number of insured workers engaged in the sixteen rapidly developing manufacturing industries for which the Ministry of Labour supplied the Barlow Commission with statistics increased in Lancashire between 1923 and 1937 by 86 per cent, against 66 per cent for Great Britain as a whole.⁴ Lancashire in 1939 was still very far from having completed its adjustment to changes in home and

¹ S. R. Dennison, *The Location of Industry and the Depressed Areas*, p. 98. 1939.

² Based largely on the Corporation's evidence to the Barlow Commission.

³ Chapter II, Table 16. The North-western region here includes Lancashire, Cheshire, Cumberland, and Westmorland.

⁴ Chapter I, Table 6.

export markets, and there was still considerable depression; but at least there was no suggestion of stagnation.

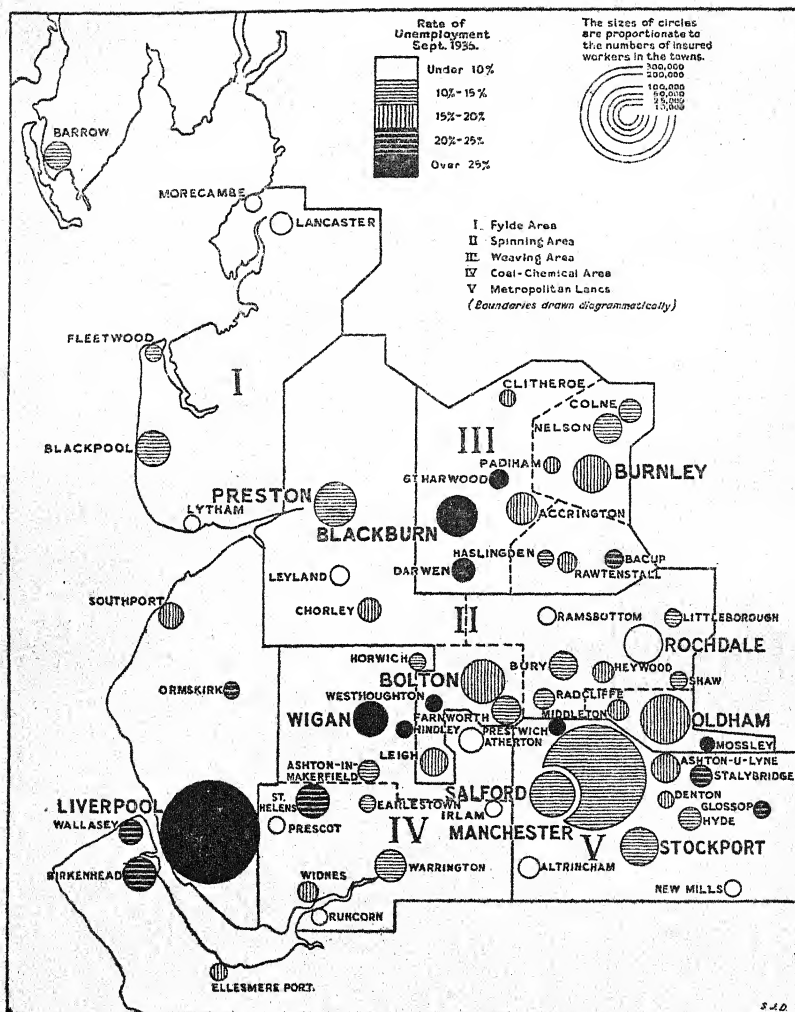
The general process of decline and recovery affected particular parts of Lancashire in very different ways; there were some parts of the county where employment increased fully as fast as in the prosperous counties of the South-east, and there were others where conditions were little (if at all) better than in the worst of the Special Areas. Post-war prospects are equally varied. For the purposes of the Survey Lancashire can be divided conveniently into seven main regions. One is the shipbuilding and iron and steel manufacturing district round Barrow. A second is the coastal area between Lancaster and Blackpool, the Fylde area. There are two main cotton regions, the area round Blackburn, Burnley, and the Rossendale Valley, which is chiefly concerned with weaving, and the spinning district round Rochdale, Oldham, Bolton, and Preston. The area round Wigan, St. Helens, and Warrington, with the neighbouring parts of Cheshire, depends chiefly on coal mining and the glass and chemical industries, and to a smaller extent on iron and steel and engineering. The area round Manchester, Salford, and Stockport (Metropolitan Lancashire), with the neighbouring parts of Cheshire and Derbyshire, includes a substantial amount of cotton spinning and weaving; its core, in Manchester and Salford, depends principally on engineering, the clothing industries, the commercial and finishing sections of the cotton industry, and the service trades. The seventh region is Merseyside, again including part of Cheshire.¹ The spinning, weaving, coal and chemical, and Fylde districts, together with Metropolitan Lancashire, make up the area covered by the *Industrial Survey* of 1932, which has been named here the Board of Trade Survey Area.

(2) BARROW

The northernmost of the seven districts, round Barrow, has not been covered in any detail by the Nuffield Survey. This area depends principally on three groups of industries, iron and steel, shipbuilding, and general engineering. Before the last war its dominant industry was warship building; between 1910 and 1913 an average of about 64,000 gross tons of shipping was launched each year, of which warships contributed 61,500.² After the last war the Barrow yards went over almost entirely to merchant shipbuilding, and with great success; an average of 32,150 tons of merchant shipping a year were launched between 1921 and 1926, and 27,350 tons between 1929 and 1937, and at the peak of 1937 some 47,800 tons were launched. With

¹ Most of this classification has been taken over from *Readjustment in Lancashire*, which is concerned with the Board of Trade Survey Area as defined here.

² Statistics of warship output, expressed in displacement tons, have been converted into gross tons at the rate of two gross tons to one displacement ton.



V. LANCASHIRE: PERCENTAGE OF INSURED WORKERS UNEMPLOYED, SEPTEMBER 1936, AND BOUNDARIES OF SURVEY SUB-AREAS

Based partly on a map published in *Readjustment in Lancashire* (Manchester University Press, 1936)

the help of a limited amount of warship building, output in good years was not far below the pre-war level. Vickers, the leading local firm in engineering as well as shipbuilding, also succeeded in adapting its engineering activities to the new market conditions which arose after the Great War. In view of the nature of its industries it is not surprising that Barrow suffered severely in the slump of the 'thirties, though its output of ships was better maintained than output in most other centres; in 1932 and 1933 unemployment ranged around 33 per cent. There was not, however, the prolonged depression which occurred in some of the other Lancashire regions; in 1929 unemployment was about the national level, and in 1937, with the beginnings of rearmament, it fell well below it.

TABLE 44
INSURED WORKERS IN 1929: BARROW EXCHANGE AREA

	Number of Insured Workers	
	Number	% of total
Iron-ore Mining	1,110	13
Blast Furnaces	790	
Iron and Steel Smelting and Rolling, etc.	1,880	
Shipbuilding and Repairing	5,190	18
General Engineering	8,850	30
Other Industries and Services	11,420	39
Total	29,240	100

From Jewkes and Winterbottom, *Industrial Survey of Cumberland and Furness*, 1933.

The future of the Barrow area is obscure, since it depends very largely on unsettled national factors which are little affected by Barrow's particular circumstances. If the national output of ships is maintained in the way suggested in previous chapters, if steps are taken to prevent the persistence of unemployed capacity in the engineering industries, and if there is a general policy designed to eliminate the trade cycle, Barrow should do well. There is no reason to doubt the competitive efficiency of most Barrow industries, or to fear a serious depression if these conditions are fulfilled; but whether they are likely to be fulfilled is for the moment uncertain. A local factor of some importance is the position of the Barrow Haematite Steel Company. In April 1943 the steel making and rolling sections of this company's works were purchased by the Ministry of Supply. The Minister stated in Parliament that the company had decided before the war to abandon this part of its works, and that the Ministry had decided to purchase in order to make certain improvements—chiefly in connexion with the quantity and quality of steel

ingot production—which the company was not in a position to carry out.¹ Should this works eventually be shut down some unemployment would be caused; but Government policy on this question is not yet clear. Barrow's industrial structure is unbalanced, and, while past experience shows that prosperity may well be achieved without any fundamental change, this is clearly an area whose problems should be carefully watched.

(3) THE BOARD OF TRADE SURVEY AREA

The level of employment increased very much more slowly in the 'twenties and early 'thirties in the Board of Trade Survey Area than in the country as a whole. A rough indication of the difference is the fact that the insured population of the Board of Trade Survey Area as a whole increased between 1925 and 1934 by no more than 2 per cent, while the insured population of Great Britain increased 12 per cent. Unemployment in the Board of Trade Survey Area was persistently above the national level, and there was some loss of population by emigration; between 1921 and 1931 (Table 46) the net outward balance of migration was equivalent to about 2·3 per cent of the Area's 1921 population.

This generally low level of prosperity was the product of widely varying conditions in different parts of the Area. In the Fylde area the insured population increased (Table 45) by 27 per cent between 1925 and 1934, a rate of increase considerably greater than in the country as a whole. There was an influx of population—net inward migration between 1921 and 1931 was equivalent to 25 per cent of the 1921 population—and unemployment was not high by national standards. There was a substantial increase in the insured population of Metropolitan Lancashire, though in this case the increase was less rapid than in the country as a whole, and there was a good deal of unemployment in some parts of the district, and some loss of population by migration. At the other end of the scale, there was a fall of 9 per cent in the number of insured workers in the cotton-weaving district, and other falls in the cotton-spinning district and the coal-mining section of the coal and chemical district. Unemployment in these districts was high, and the weaving district, a large part of the spinning district, and the coal-mining area experienced considerable net emigration and substantial total losses of population between 1921 and 1938. The pressure to emigrate from the depressed cotton districts would have been even greater, and the contrast between their depression and the relative prosperity of other parts of the county even more striking, if it had not been for their low fertility and rate of natural increase. The net fall in population between 1921

¹ Hansard, H.C., 31.3.43., cols. 181–2. If the works are re-sold after the war the company has an option to re-purchase.

and 1931 in the Wigan and Burnley districts represented very much the same percentage of the population in 1921; but the fall at Wigan was the product of a natural increase of 6 per cent and a net loss of 12 per cent by emigration, while the fall in the Burnley district was the net result of a 7 per cent loss by emigration and a natural increase of less than 1 per cent.

Broadly speaking, these differences between the fortunes of different parts of the Board of Trade Survey Area followed the same pattern as similar differences between the main industrial regions in the country as a whole. There was a tendency for each of the Lancashire districts to share in the increase of employment in the expanding industries or the fall in employment in the contracting industries broadly in proportion to its share in the employment given by each group in the Board of Trade Survey Area as a whole at the beginning of the 'twenties. This process is illustrated in Table 45, in so far as

TABLE 45
LANCASHIRE: BOARD OF TRADE SURVEY AREA. CHANGES IN
NUMBER OF INSURED WORKERS, 1925-34

<i>Number of insured workers (000's)</i>		Metro- politan Lancs.	Coal- Chemical Area	Spinning Area	Weaving Area	Ivyle Area	Whole Area
All	1925	542	193	453	262	56	1,506
	1934	582	202	446	238	71	1,589
Expanding Industries ¹	1925	254	42	93	45	40	474
	1934	316	71	137	60	56	640
Declining Industries ²	1925	288	151	360	217	16	1,032
	1934	266	131	309	178	15	899

1925-34. *Changes as percentage of all insured in 1925*

All insured	+ 7	+ 5	- 2	- 9	+27	+ 2 ³
Expanding Industries	+11	+15	+10	+ 6	+29	+11
Declining Industries	- 4	-10	-12	-15	- 1	- 9

Expanding industries: percentages of whole area

Number of insured workers,						
1925	54	7	20	10	9	100
Increase in number of insured workers, 1925-34	37	17	27	9	10	100

Estimated from statistics published in *Readjustment in Lancashire*.

¹ Industries in which the Ministry of Labour's statistics show an increase in the number of insured workers in the Board of Trade Survey Area between 1925 and 1934.

² All other industries.

³ This may be contrasted with the increase of 12 per cent for all insured persons in Great Britain.

TABLE 46
POPULATION CHANGES: 1921-38. BOARD OF TRADE SURVEY AREA

Area	Estimated population, mid-1938 (000's)	Changes 1921-31. % of 1921 population			Changes 1931-8. Increase (+) or decrease (-) in % of 1931
		Excess of births over deaths	Change by migration	Total increase (+) or decrease (-)	
Blackburn . . .	259	+0.8	- 5.4	- 4.6	- 7.9
Burnley . . .	188	+0.8	- 7.1	- 6.3	- 8.2
Rossendale . . .	62	+0.3	- 4.2	- 3.9	- 5.9
WEAVING AREA . . .	509	+0.7	- 5.9	- 5.2	- 7.7
Preston . . .	227	+3.8	- 0.5	+ 3.3	- 0.9
Bolton . . .	350	+2.9	- 4.3	- 1.4	- 0.7
Rochdale . . .	267	+0.4	- 2.1	- 1.6	- 2.2
Oldham . . .	247	+1.0	- 5.9	- 4.9	- 5.2
SPINNING AREA . . .	1,092	+2.0	- 3.3	- 1.3	- 2.2
METROPOLITAN LANCASHIRE . . .	1,554	+4.0	- 1.5	+ 2.5	+ 0.4
Wigan . . .	263	+6.2	-12.0	- 5.8	- 0.9
St. Helens, Warrington	361	+9.0	- 4.3	+ 4.7	+ 3.5
COAL-CHEMICAL AREA . . .	624	+7.7	- 7.8	- 0.1	+ 1.6
FYLDE AREA . . .	294	+1.0	+24.2	+25.2	+13.5
BOARD OF TRADE SURVEY AREA . . .	4,073	+3.4	- 2.3	+ 1.1	- 0.4
ENGLAND AND WALES . . .	41,215	+6.0	- 0.4	+ 5.6	+ 3.2

it affected the expanding industries. The southern part of the Area (Metropolitan Lancashire and the coal and chemical district) began with 61 per cent of the total number of insured workers in growing industries in the Area, and obtained 54 per cent of the total increase in the number insured in the same industries between 1925 and 1934. The spinning area began with 20 per cent of the number insured and obtained 27 per cent of the total increase. The two northernmost districts, the weaving area and the Fylde area, began with 19 per cent of the total and obtained the same proportion of the increase.

Map V gives a good general impression of the differences in the prosperity of various parts of the Board of Trade Survey Area, as illustrated by the level of unemployment in a typical month. At the date to which the map refers unemployment in Great Britain as a whole was 11.9 per cent. As might be expected, unemployment in the Fylde district was about or below the national average. The heaviest unemployment was found in part of the weaving district, in the east of the spinning district and in the cotton area round Stalybridge, and in the mining area round Wigan. In Manchester, Salford, Warrington, and a large part of the centre and west of the spinning district unemployment was not far from the national level.

The Fylde Area. The coastal area from Lancaster to Lytham St. Anne's 'can almost be compared', as the authors of *Readjustment in Lancashire* put it, 'with the newer industrial areas in the South'. Its most important single industry is tourism, principally at Blackpool and Lytham St. Anne's, which in 1938 contained over half the whole population of the area; this group of trades has been highly prosperous in the past, and with the spread of holidays with pay there is no reason to fear any depression in future. There are also a number of growing manufacturing industries: linoleum manufacturing at Lancaster, and two Lancaster rayon firms, started in 1929 and 1931, are outstanding examples. The high rate of immigration and population growth before the war is a sufficient proof of the prosperity of this area, and there is no reason to suppose that at least equal prosperity will not be resumed after the war. The coastal resorts of this district have benefited from the influx during the war of civil servants and other evacuees, and should be in a much more favourable financial position at the end of the war than the resorts of the South and East Coast.

Even this area, however, has its problems, of which two deserve particular mention. One is the seasonality of the tourist industry. At Blackpool unemployment in August of each year between 1934 and 1936 averaged 11.4 per cent, and in November 27.2 per cent; the average for the whole year was 20.1 per cent. The average for the whole of Great Britain in the same period was 15.8 per cent. Blackpool has a much more marked season than many other resorts, which have developed as residential districts in addition to providing for summer holidays; the low proportion of workers in private domestic service in Blackpool, as compared either with other holiday resorts or with Great Britain as a whole, and the high proportion of workers in hotels and lodging- and boarding-houses, is a clear indication of Blackpool's lack of seasonal balance. It is not in the interests of holiday-makers, any more than of people in Blackpool itself, that shopkeepers, hotel and boarding-house keepers, and seasonal workers should be compelled to earn a high proportion of their annual incomes

in three or four summer months. It is not clear how far it would be possible to develop Blackpool as an all-the-year-round resort, either by extending the season or by attracting a greater residential population; there is no doubt that an effort in this direction should be made. This is fully recognized in Blackpool itself.

TABLE 47
UNEMPLOYMENT AMONG INSURED WORKERS:
PERCENTAGE: MONTHLY AVERAGE, 1938

	Season	Out of Season	Difference
Bournemouth	6.1	8.8	2.7
Brighton	8.5	10.7	2.2
Southend	9.6	16.3	6.7
Sandown	3.2	12.6	9.4
Yarmouth	11.7	22.5	10.8
Blackpool	11.6	24.9	13.3

From the Ministry of Labour's Local Unemployment Index.

The season is taken as the four months from June to September.

TABLE 48
NUMBERS ENGAGED IN CERTAIN TRADES, PER 1,000 OF OCCUPIED
POPULATION, CENSUS OF 1931

	Private domestic service	Hotels, lodging, and boarding-houses
Great Britain	81	21
Blackpool	63	148
Brighton	109	72
Southend	100	41
Bournemouth	162	116
Isle of Wight	153	67

The other problem of the Fylde area which deserves consideration is the future of the Fleetwood fishing industry. Working conditions and the level of employment in this industry before the war were unsatisfactory, though landings were being maintained; 1,480,000 cwt. of fish were landed from British boats in 1937, as compared with 1,200,000 in 1930 and 1931. The improvement was in quantity and not in value; the total value of fish landed from British boats in 1937 was £1,318,000, a fall of more than 20 per cent from the £1,673,000 of 1930. The number of insured workers in the fishing industry in the Board of Trade Survey Area and the Barrow area fell from 3,340 in 1931 to 2,140 in July 1939, and the number of boats fishing out of Fleetwood fell from 159 in 1927 and 150 in 1930 to 117 in 1935 and 96 in 1938. Most of the boats are over forty years old, and equipment and living conditions for the crews are poor. Local

fishermen remember with regret a small fleet of German trawlers transferred after the last war in settlement of a debt, and operated for a time from Fleetwood; crew's conditions and general equipment on these vessels were well in advance of the normal standard of Fleetwood vessels at the outbreak of the present war. Fleetwood is by no means a depressed area, and a recovery of employment in the fishing industry is not a matter of urgent local importance. A recovery is nevertheless desirable, and not only for local reasons. From the point of view of Lancashire as a whole, an increase in any of the industries of the Fylde area would help directly or indirectly to relieve unemployment elsewhere. From the point of view of the country generally, it can scarcely be said that the consumption of fish has yet reached a level which, taking into account nutritional needs, would justify allowing employment in any important section of the fishing industry to decline.

The war has in some ways brought the prospect of an improvement in the equipment and organization of the Fleetwood fishing industry nearer. Activity at Fleetwood has increased, in contrast to the East Coast ports; the number of boats fishing out of Fleetwood was half as many again in 1943 as in 1938. Requisitioning has fallen less heavily on Fleetwood than on ports with more modern fleets, and the earning capacity of even the oldest vessels (and therefore also the capacity of their owners to set aside reserves for rebuilding) is indicated by reports that twice and three times the pre-war price has been paid for vessels formerly laid up as uneconomic even by the standards of Fleetwood. There have been considerable changes of ownership during the war; the precise effect of this factor is difficult to decide. There is a risk that the industry may prove, when the wartime boom comes to an end, to have been saddled with a certain degree of over-capitalization; but on this there is not enough information to judge. A more detailed inquiry is needed to discover what precise steps should be taken to ensure a satisfactory measure of reconstruction after the war.

The Cotton Districts. The distinction which has been drawn between the cotton spinning and weaving districts, though broadly justifiable, is not rigid; some spinning and some weaving are done in all areas alike, and for many purposes the two districts are best regarded as one. Both alike depend directly or indirectly on cotton for much the largest part of their employment, though the dependence is greatest in the Oldham area and parts of the weaving district. In the Blackburn area 60 per cent of the insured population in 1930 were directly engaged in the cotton industry, in the Oldham area 62 per cent, and in the Burnley area 70 per cent. It is true that in all the areas shown in Table 49 the proportion of all insured men engaged in the cotton industry is much smaller than the proportion

of all insured women. As against this, it must be remembered that it is precisely in these areas that, as a result of the wage structure, women's wages are little less important from the point of view of family incomes than men's.

TABLE 49
PERCENTAGE OF ALL INSURED WORKERS IN EACH AREA WHO
WERE ENGAGED IN THE COTTON INDUSTRY IN 1930

Area	Men and Boys	Women and Girls	Total
Burnley	54	88	70
Blackburn	35	87	60
Rossendale Valley	33	67	48
Oldham	47	83	62
Rochdale	27	69	45
Bolton	26	74	46
Preston	23	71	44
Stalybridge, Hyde, Stockport (part of Metropolitan Lancashire)	24	65	41

From the Board of Trade's *Industrial Survey of the Lancashire Area*.

The course of output and employment in the cotton industry from the Great War till 1938 is summarized in Table 50, taken from the Cotton Board's *Report on Post-war Problems*. Output in all sections fell heavily between 1912 and 1937-8, and employment fell by more than 40 per cent. It was the weaving section, as the Table shows, which experienced the greatest decline in output. The output of cotton piece goods in the United Kingdom fell between 1912 and 1937-8 by nearly 60 per cent, as a result of a fall of 75 per cent in exports; sales in the home market rose from 1,100 million square yards to 1,600 million. Cotton-weaving firms took up the weaving of rayon and mixed goods, which accounted for about an eighth of the combined output of cotton, rayon, and mixed piece goods in 1937-8; but the combined output of 3,700 million square yards was still well under half the output of cotton piece goods in 1912. Yarn output was very much better maintained. Direct exports of yarn (as distinct, that is, from exports of yarn woven into cloth) fell by 43 per cent between 1912 and 1937-8, a much smaller fall than in the case of piece goods. Direct exports of yarn are in any case relatively unimportant; only an eighth of the output of yarn in 1912 was directly exported, as against 86 per cent of the output of piece goods. In the home market the diminishing demand from cotton weavers was at least partly offset by increasing demands from other textile trades, particularly hosiery, and for a number of industrial uses; motor tyres are one of the most important. The output of cotton and waste yarn

TABLE 50—THE UNITED KINGDOM COTTON INDUSTRY, 1912-38

	1912 ⁴	1924	1930	1935	1936	1937	1938
<i>Production</i>							
Cotton and Waste Yarn (million lb.)	1,983	1,395	1,047	1,228	1,310	1,358	1,050
Cotton Piece Goods (million sq. yds.)	8,050 ⁵	6,026	3,320	3,384	3,500	3,806	2,700
Rayon Piece Goods ¹ (million sq. yds.)	—	20	180	380	400	482	426
<i>Exports</i>							
Cotton Yarn (million lb.)	244	163	137	142	151	159	123
Cotton Piece Goods (million sq. yds.)	6,913 ⁵	4,444	2,407	1,984	1,917	1,922	1,386
Per cent of Production	86	74	72	58	55	53	51
Rayon Piece Goods (million sq. yds.)	—	—	65	52	67	78	63
<i>Plant (mid-year) (million mule equivalent) ²</i>							
Number of spindles in place (thousands)	61.4	63.3	63.2	48.2	46.9	44.1	42.1
Number of looms in place	786	792	700	530	515	505	495
Per cent of Plant employed:							
Spindles	—	90	58	69	79	89	68
Looms	—	80	54	74	80	83	62
<i>Employment (thousands)</i>							
Number employed (including Finishing Operatives)	711	614	480	448	455	460	365
Per cent Unemployed ³	—	13.0	37.4	21.4	16.0	11.2	26.7

¹ Including cloths of rayon mixed with cotton; woven only.² Counting a ring spindle as equivalent to 1½ mule spindles.³ Cotton spinning and weaving only.⁴ 55½ hour working week, reduced to 48 in July 1919.⁵ Million linear yards.*Sources:*

Production—Up to 1937, Censuses of Production.

Exports—U.K. Trade Returns.

Employment—including salaried workers). Up to 1937, Censuses of Production.

Plant—International Cotton Statistics.

in 1937-8 was 39 per cent less than in 1912; allowance for the small amount of rayon staple fibre spun in the cotton industry (19,000,000 lb. in 1937-8) would bring down this figure to 38 per cent.

A distinction has to be drawn between changes in the output of different types of yarn and piece goods as well as between changes in the output of yarn generally and of all types of piece goods together. Immediately after the boom which followed the last war, and lasted until 1920, the most severe depression in the spinning section of the industry was felt in the American spinning section, engaged in producing relatively coarse yarns from American cotton, and centred principally on Oldham. The Egyptian spinning section, producing the finer yarns and centred on Bolton, was relatively prosperous. Since 1924 successive Censuses of Production show that the coarse-spinning section has regained ground. The Census of 1935 showed a fall of over 40 per cent since 1924 in the output of medium and fine yarns of over 40's count, while the output of coarser yarns had scarcely changed. It cannot be assumed that the firms which traditionally produced the coarser counts produced the whole output of coarse yarns in 1935, or that the firms formerly producing the finer yarns found no alternative employment; some took up staple fibre spinning, while others went over to coarser counts. Nevertheless there was clearly a tendency for the fine-spinning centres to lose the ground which they gained in the early 'twenties.

In the case of weaving, the tendency has been for firms which specialized in the cheaper and less-finished qualities of cloth to feel depression most severely. The share of these qualities in exports has fallen progressively. Blackburn, which specialized in cheap cloth for the Indian market, was most affected by this tendency; demand for the coloured cloths produced largely in the area round Nelson and Colne, and to a smaller extent round Bolton, has been very much better maintained. Here, again, it does not necessarily follow that an area which specialized on qualities for which demand fell relatively fast felt the full weight of the decline; general depression resulted in at least a partial disappearance of the lines of demarcation between the areas with different specialities. Blackburn firms, in particular, were producing a greatly increased variety of cloths immediately before the war. But the differences in the type of goods produced in different areas persisted sufficiently to have an important effect on prosperity.

The upshot of these changes in the demand for cotton goods was the change in employment and population and the growth of unemployment illustrated in Tables 45 and 46 and Map V. The Blackburn area, which suffered simultaneously from the decline of weaving, from its own specialization on cheaper qualities, and from the very high proportion of its workers engaged in the cotton industry

TABLE 51

FALL IN EXPORTS OF COTTON PIECE GOODS, 1913-37
FALL AS PERCENTAGE OF EXPORTS IN 1913

Grey, unbleached	87
White, bleached	72
Printed	63
Dyed in the piece	51
Manufactured from dyed yarn	56

(Table 49), naturally experienced particularly severe depression. Unemployment in this area averaged 33.5 per cent between 1929 and the middle of 1936, as against 17.1 per cent for Great Britain as a whole. Unemployment in the Blackburn area in 1935 and 1936 was actually higher than in the Scottish Special Area, and about on a level with unemployment in Durham and Tyneside. The Burnley area, with an even higher proportion of workers engaged in the cotton industry, was less affected by depression, since demand for its specialities was relatively well maintained; unemployment in this area averaged 23.6 per cent between 1929 and 1936. The third area in the weaving district, the Rossendale Valley, experienced severe cyclical unemployment; but unemployment did not persist to the same extent as in the rest of the weaving district. The proportion of insured workers out of work had fallen by the beginning of 1936 to about the national level, after averaging 21.2 per cent since 1929. The proportion of all insured workers engaged in the cotton industry is very much lower in the Rossendale Valley than in the rest of the weaving district, and this area has benefited from the steady growth of the local boot and shoe industry. A high proportion of the boot and shoe operatives shown in Table 51 are concentrated in the Rossendale Valley and at Bury. Beginning with the slipper trade, the Rossendale Valley industry has gradually encroached on the market for cheap women's shoes formerly filled mainly by producers in Leicestershire; the encroachment has been successful, and some thousands of additional workers were taken on in the Rossendale Valley over the fifteen years before the war. The cardboard box industry has also expanded in the Rossendale Valley, and a number of products based on or related to it were being made shortly before the war. One was waxed cartons and containers; attaché cases and similar products were another.

The spinning district as a whole was very much less depressed than the weaving district, as a result both of its smaller dependence on the cotton industry and of the relatively small drop in the output of yarn: Depression was most severe in the Oldham area, whose dependence on the cotton industry was greatest (Table 49). Unemployment between 1929 and 1936 at Oldham itself was on the average

rather higher than in the Burnley area, though lower than around Blackburn, and remained persistently above the national level even in 1936 and 1937. In the remainder of the spinning district the proportion of all insured workers engaged in the cotton industry in 1930 was about 45 per cent, as against 62 per cent in the Oldham area, and the depression which resulted from the decline in the cotton industry was correspondingly less severe. Unemployment in the leading towns of the spinning district outside the Oldham area—Rochdale, Bury, Bolton, and Preston—reached a very high level in 1931, at the bottom of the slump in the cotton industry, but returned to about the average of the country as a whole by 1936 and 1937. Unemployment at Bury and Rochdale in 1936 was actually below the national average. The proportion of all insured workers engaged before the war in expanding industries was rather higher in the spinning than in the weaving district, and all parts of the spinning district, including the Oldham area, had important manufacturing industries apart from cotton and such subsidiaries as textile engineering. Electrical cables and apparatus in the Oldham and Bolton areas, rayon manufacturing, electrical engineering, and motor manufacturing in the Preston area, and rayon, boots and shoes and hats at Bury, are some examples.

Looking at the cotton districts as a whole, the wide variety of conditions which existed before the war is apparent. None of the cotton districts could be called prosperous; all alike suffered severely from the trade cycle, and unemployment even in a town such as Rochdale was well above the level found in London and the South-east at the peak of the trade cycle in 1937.¹ There is, however, clearly a distinction to be drawn between on the one hand the Rossendale Valley and most of the spinning district, which reached a certain moderate prosperity at the peak of the trade cycle, and on the other the district round Blackburn, where depression was as severe as in the Special Areas, and the Burnley and Oldham areas, where unemployment above the national level and far above the level found in London and the South-east persisted even in the best years of the 'thirties.

In spite of the degree of adjustment which took place between 1930 and the outbreak of war, the future of the traditional cotton districts still depends principally on the cotton industry. Estimates of probable future demand and employment in the cotton industry prepared for the Cotton Board by its Statistical and Economic Department in 1943 give some ground for pessimism. Three different estimates were prepared on varying assumptions. For the first, it was assumed that there would be no great change in the general conditions of international trade; changes unfavourable to Great Britain

¹ Even ignoring unrecorded unemployment.

were assumed in the second, and the third was based on the most optimistic assumptions which the Department's advisers believed could be justified. It was recognized that for some time after the war there would be a demand for as much as the industry could produce; the difficulties in this period would be chiefly on the side of supply, in re-assembling labour, clearing mills used for storage, reconditioning machinery, and bringing concentration to an end. The estimates shown in Table 60 refer to the time immediately after the first rush of reconstruction demand has been satisfied.

The dominant factor in the estimates as they stand is clearly the prospective decline in exports. The most optimistic estimate does certainly show a level of exports rather higher than in 1937; but there is little doubt, in view of the development of overseas cotton industries during the war, that the middle estimate is likely to prove to be nearer the mark. It is possible that the decline in exports may be offset by a greater rise in home consumption than the estimates anticipate. The estimates assume a rise in home consumption of about 10 per cent above the average level of 1935-7, but a fall of nearly 10 per cent from the level of 1937. It is not unreasonable to hope that a policy of full employment and the rise in the national income which can fairly be expected would raise the home demand for goods made in the cotton industry at least 5 per cent above the 1937 level. Home consumption of woven goods produced in Great Britain would in that case amount to 2,550 million square yards, as compared with the estimate of 2,200 millions put forward by the Cotton Board; and, on the middle estimate of export prospects, total output in Great Britain would be 4,050 million square yards, a fall of slightly over 10 per cent as compared with 1937. On this basis employment in spinning and doubling would be 166,000, a fall of 20,000 as compared with 1937, and employment in weaving 185,000, a fall of about 21,000.

Even on a favourable amendment of the Cotton Board's estimates, it appears that 41,000 (about 10½ per cent) of the workers employed in spinning and weaving in 1937 will not be required again after the first rush of reconstruction demand. It is very probable that this figure will be further increased as a result of technical changes. The Cotton Board's estimates are based on the assumption that efficiency will be no greater than before the war. The Board's report does, however, recognize that there is wide scope for an increase in the technical efficiency of the industry,¹ and it appears that considerable improvements will in any case be made; inquiries among a sample of cotton firms showed that they have in mind to spend about

¹ Since strongly confirmed by the Report of the Cotton Textile Mission to the United States of America, March-April 1944 (published as a White Paper in November 1944).

TABLE 52
LONG-TERM ESTIMATES OF PROBABLE OUTPUT AND EMPLOYMENT:
COTTON INDUSTRY

	Medium	Estimate: Post-war		Actual output 1937
		Unfavour-able	Favour-able	
Spun yarn ¹ (million lb.):				
Total output	1,125	927	1,418	1,375
Direct exports ²	124	96	215	159
Woven goods ³ (million sq. yds.):				
Total output	3,700	2,947	4,626	4,530
Exports	1,500	750	2,430	2,106
Employment (000's):				
Cotton and staple fibre spinning and doubling	152	125	192	186
Weaving ³	169	134	210	206

From the Report of the Cotton Board's Committee on Post-war Problems, January 1944.

£43 million (at pre-war prices) on re-equipment after the war.⁴ The Cotton Board deprecates sudden changes before there is time to experiment with new machinery and forms of organization; but re-equipment and reorganization will undoubtedly have to be carried through in the long run. One factor in the situation is the serious shortage of young workers, who have been deterred from entering the cotton industry by the low earnings and poor conditions prevalent in recent years; whether or not they have found employment elsewhere, they have preferred to attach themselves to some other industry. Reorganization and greater mechanical efficiency is necessary if only to make it possible to provide better pay and working conditions. It is possible that the demand for cotton and rayon or mixed goods is sufficiently elastic for the effect of increased efficiency on employment to be offset by a rise in demand; but there is no evidence that this will in fact occur. Greater efficiency is as likely as not to mean fewer workers in the cotton industry.

It is difficult to say with any accuracy whether the decline in demand is likely to be more keenly felt in the spinning or the weaving district. The Cotton Board's estimates, as amended, show a prospective level of employment in weaving about 10 per cent below the level of 1937, as against a fall of 11 per cent in spinning. A difference of this order is possible, particularly if the cotton industry begins to use a higher proportion of filament yarn, made in the rayon industry and not requiring to be spun; but the difference is not great enough to be significant, particularly in view of the very speculative

¹ Including staple fibre spun in the cotton industry as well as cotton.

² Yarn exports, as distinct from yarn exported woven into cloth.

³ Including rayon and mixed fabrics woven in the cotton industry.

⁴ *Report* p. 9.

basis of the estimates. There is some reason to expect that the pre-war tendency for the demand for cheaper types of cloth to fall relatively fast will continue; it is very largely in these ranges that developments have occurred during the war in cotton industries overseas. The Blackburn area may become even more depressed relatively to the rest of the cotton district than it was before the war.

Whatever the precise balance between decline in the spinning and weaving sections or in different divisions of spinning and weaving may be, the outlook for the chief cotton districts is hardly favourable. If employment in the other industries in these areas remained at the level of 1937 conditions even in good years might be as bad as in 1937, and very possibly worse. Fortunately, this assumption would not be justified. There is good reason (Chapter II) to expect that the trends which added nearly 60,000 workers to the labour force in the expanding industries of the spinning and weaving districts between 1925 and 1934 will continue to operate; and their effect will be all the greater since, as a result of developments since the Great War, these industries have come to employ a decidedly higher proportion of the insured population than in the past. Even if cotton itself employs fewer workers than before the war, there are some local industries more or less directly connected with cotton which are likely to gain. Rayon manufacture is one. A second is textile machine building. About 22,000 workers were employed in 1935 in the textile machine manufacturing industry of Lancashire and Cheshire,¹ and the great majority of them were in the cotton districts. Of 15,000 workers employed at a number of large works for which the Factory Inspector's Department of the Ministry of Labour supplied pre-war statistics, about 4,000 were employed in the Burnley area,² 1,600 in the Blackburn area, 3,100 in and around Bolton, 4,200 round Oldham, and 1,600 in the Rochdale area. This industry was depressed for many years before the war, partly on account of severe competition in overseas markets, and very largely because of the depression in cotton. Its future prospects should be excellent, provided at least (it is impossible to avoid some doubts on this) that the cotton industry can in practice find from its own resources, or raise on reasonable terms, the capital required for an extended programme of reorganization. As the Cotton Board point out, the transition to a higher level of efficiency in the cotton industry should be spread over a considerable period, and should in any case be a process to which no definite end can be set.

The fall in employment in cotton may be felt suddenly after the first years of reconstruction, while the tendency for employment to

¹ Census of Production area.

² Factory Inspector's area, not the Burnley area as previously defined. Similarly for the other areas mentioned.

grow naturally in the expanding industries must take time to operate. In view of this and of the degree of unemployment which existed before the war even in a good year such as 1937 it seems that the cotton districts as a whole could not expect their problems to be solved by unassisted readjustment for some years, and possibly some decades; in the absence of special measures of assistance there might well be considerable unemployment. The difference will still remain between the areas such as Blackburn, Burnley, and Oldham, which are specially dependent on cotton and have relatively few industries capable of development to absorb displaced cotton workers, and the other cotton districts in which the possibilities of rapid adjustment are greater. If unemployment is to be avoided general measures will be needed to promote the development of new industries in the cotton district as a whole, together with special measures to help the districts where the risk of depression is greatest.

The natural suggestion is that some of the factories erected during the war should be used for permanent new industries. The North-west as a whole obtained about 27 per cent of the new factories and extensions projected from the beginning of the war down to June 1941 (Chapter II, Table 16), apart from Royal Ordnance Factories and other establishments directly owned by the Government, and a high proportion of the new development in the North-west has occurred in the cotton districts. A great deal of it, including particularly a great deal of aircraft manufacturing, has gone to the formerly depressed weaving districts and to the eastern spinning districts round Oldham and southwards along the Pennines, including the cotton districts which have been included here in Metropolitan Lancashire. The new factories are thus in many cases situated in precisely those districts where the danger of unemployment is greatest. There is evidence that some of them may in any case be kept in permanent use after the war, though it is not clear whether these would be a high enough proportion of the total to make a significant difference to employment in potentially depressed districts. The bulk of the new factories are well designed and built, and suitable for most of the manufacturing industries which are likely to expand after the war.

In addition to the factories covered by the returns on which Table 16 of Chapter II is based, the cotton districts have acquired a number of Royal Ordnance Factories. One near Chorley, which was begun before the war, is well situated for drawing workers from the Blackburn area, and might be suitable for development after the war as a trading estate. Most of the other new factories in the area are suitable for single firms, but not for groups; the Royal Ordnance Factory near Chorley might be an appropriate site for a group of firms, possibly with a new industrial town centred on them.

A large proportion of the existing buildings at Chorley would be unsuitable for permanent use by normal industries, and a good deal of preliminary clearance would have to be done, though not more than the Scott Committee recommended should be done in any case in order to prevent the permanent blighting of the area which the factory occupies.¹ The case for a new industrial town centred on an Ordnance Factory is weaker in Lancashire than in (say) South Wales, since it should be more economic in Lancashire to re-develop existing industrial areas; but the possibility at least deserves consideration.

Lancashire's pre-war record in attracting new firms shows that it should not be difficult to find peace-time uses for these war factories if a serious effort is made by a national authority, as well as by the local agencies to whose efficiency the rapid pre-war development was largely due. The authors of *Readjustment in Lancashire* quote a number of specific cases of firms which have found a site in the acutely depressed weaving district satisfactory, in industries such as gas boilers, electric boilers, electric cookers, wall-paper manufacturing, fine chemicals, paint, cardboard boxes, cartons, and suitcases. From the point of view equally of transport, of labour, of marketing, and of other factors in costs it appears that even the weaving district is at little or no real disadvantage by comparison with the Midlands or South. One genuine disadvantage is the generally drab appearance of many of the Lancashire cotton towns and the poor quality of housing and social amenities, particularly from the point of view of employers, managers and officials, and imported key workers in new industries which might alternatively be located in one of the more attractive areas in the South. It can be hoped that this will be largely remedied by rebuilding after the war; there is little doubt that general re-development, accompanied by the provision of well-equipped industrial sites with room for expansion, could add greatly to the attraction of the cotton districts for new industry. The national building programme should incidentally provide a considerable amount of new employment in the cotton districts for a number of years after the end of hostilities.

The Coal and Chemical Area. Conditions in the coal and chemical area of Lancashire and Cheshire varied considerably from district to district before the war, and seem likely to do so again. The southern part of the area depends principally on three groups of industries. Heavy chemical manufacturing, particularly round Widnes and St. Helens, was a declining industry for many years between the two wars. The national output of heavy chemicals was rising; but, as a result of technical changes and of changes in the source of raw materials, South Lancashire was losing ground. A

¹ Report of the Committee on *Land Utilization in Rural Areas*, paragraph 190. (Cmd. 6378.)

considerable amount of employment in this group was transferred from South Lancashire to Billingham, on the Tees, and unemployment at St. Helens and Widnes was considerable. There is some reason to think that no further major changes in the location of this group of industries are to be expected, so that the position should not deteriorate further; but the unemployment which existed before the war may reappear afterwards.

Secondly, there is the glass industry, which provides considerably more employment than chemicals, and was expanding before the war. During the 'twenties the British glass industry experienced severe competition in the home market from foreign producers, and in 1928 and 1929 the number of workers engaged in the industry was barely equal to the number in 1923. During the 'thirties the trend changed. As a result of tariffs and a steadily rising demand from the building, motor, and electrical industries, the number of insured workers in the glass industry in the country as a whole rose by 1937, in spite of rapid technical advances, to 20 per cent above the level of 1923. In Lancashire the increase in the number of insured workers in the glass industry was 17 per cent. There is no reason to expect any decline in this industry; it is very much more probable that the continued expansion of the industries on which the pre-war prosperity of glass manufacturing was largely based will ensure a further rise in employment.

The third main group of industries in the South of the coal and chemical area is iron and steel, including particularly steel manufacturing and the wire industry. These two are interdependent; wire rods form an important part of the output of the Lancashire steel industry. Employment in the Lancashire wire industry, which is found chiefly in the Warrington and Manchester areas, showed little sign of long-term growth or contraction for many years before the war. It was severely affected by the trade cycle; employment in the wire industry in Lancashire fell 23 per cent between the middle of 1929 and the middle of 1931. The Lancashire iron and steel industry also showed little sign of a long-term rise or fall in employment during the 'thirties. At the beginning of the 'thirties the authors of the *Industrial Survey of Lancashire* commented that 'the record of this branch of the metal industries between 1923 and 1930 suggests that it is tending to disappear altogether'. They noted that this tendency might be checked by the radical reorganization which followed the formation in 1930 of the Lancashire Steel Corporation; and this did in fact occur. A number of older works were closed down, and a new integrated plant was built at Irlam on the Manchester Ship Canal. The rapid decline in the number of insured workers in the steel industry was stopped, to the particular advantage of the southern part of the coal and chemical area; the northern

part of the area, round Wigan, suffered from the abandonment of older works.

On the whole, the southern part of the coal and chemical area seems likely to emerge from the war with conditions not very different from those which prevailed before it. Warrington and the area round it were relatively prosperous before the war; in Warrington itself unemployment was usually below the national level. There was unemployment in the declining heavy chemical districts farther west, and this may reappear; this district could scarcely be called a depressed area in the sense of the weaving district or (say) West Cumberland, but has problems which deserve careful attention. There has been some new building during the war in the Southern part of the coal and chemical area, and use might be made of this in future; but it appears that the largest new developments are less suitable for permanent industrial use than some of the corresponding developments in the cotton districts. This is an area in which extensive rebuilding and general re-development is urgently needed, and a considerable increase in employment should be available from this source.

The most urgent and at the same time the most difficult problem of the coal and chemical area arises farther north, in the main part of the Lancashire coalfield south of Wigan. The Lancashire field is old and relatively exhausted, with difficult working conditions; its costs before the war were well above the national average. Output fell from 24·6 million tons in 1913¹ to 19·8 million in 1924 and 15·7 million in 1929. From then onwards a greater degree of stability was attained, and in 1937 output was 15·1 million tons. This increased stability was due very largely to three factors. In the first place—a negative factor—Lancashire depends very little on exports; only about 5 per cent of the pre-war output was exported or shipped in foreign bunkers. Secondly, the Lancashire coalfield has on its doorstep a large industrial market whose needs its recent output has been quite inadequate to fill; it was reckoned before the war that only about half of the coal consumed in Lancashire came from local sources. The most vulnerable sections of the market for Lancashire coal had been lost by 1929, and in the markets which remained Lancashire had a certain degree of monopoly. This would in all probability not have prevented a further encroachment on

¹ These and other statistics quoted refer to Lancashire and Cheshire. Cheshire has practically ceased to be a coal-producing area, and the great bulk of Lancashire coal is raised in a belt from St. Helens through Leigh towards Manchester. Wigan lies on the northern edge of this belt. Mining has been moving away from Wigan itself, and there is a large daily migration of mine-workers from the Wigan district to pits situated farther South. The justification for speaking of the main section of the Lancashire coalfield as 'the Wigan area' is partly historical and partly that, since Wigan is half-way along the east-west belt, it provides a convenient point of reference.

Lancashire's markets by coal from other districts if it had not been for the third factor, the fixing of quotas under the Coal Mines Act of 1930; there is little doubt that the stabilization of the share of different districts in the national output which resulted from the Act was of great advantage to Lancashire.

In spite of the greater stability of production, employment in the Lancashire field fell after 1929 as well as before. From 108,000 in 1913 and 106,000 in 1924, it fell to 79,000 in 1929 and 60,000 in 1937. Mechanization increased steadily; 61 per cent of the coal raised in Lancashire was cut by machine in 1937, against 15 per cent in 1924, and in 1937 65 per cent of the coal cut was mechanically conveyed below ground. The fall in employment of 43 per cent between 1924 and 1937 caused a degree of depression which can be appreciated from the fact that in 1931 some 40 per cent of the occupied males in the area round Wigan¹ were engaged in coal mining; the corresponding figure for Durham was 41½ per cent. Unemployment at Wigan itself between 1934 and 1936 averaged 27·4 per cent, against 15·8 per cent for the country as a whole and 7·9 per cent in London and the South-east. There was some new industrial development, including particularly the establishment of rayon manufacture at Golborne, near Leigh; but development was far too slow to absorb the men unemployed.

Lancashire's share in the national output of coal fell between 1937-8 and 1941 from 6·3 per cent to 5·9 per cent, and there was a considerable absolute drop in output. It is doubtful whether either the relative or the absolute drop can or should be made good after the war. A high level of activity in Lancashire industries generally would justify at least some recovery in output from the Lancashire coalfield; but, in view of the relative cost of production in Lancashire and neighbouring fields, it is doubtful whether in any circumstances output should be raised above the pre-war level. In spite of lower wages the cost per ton of coal raised in 1937 was 20 per cent greater in Lancashire² than in the West Riding and 26 per cent more than in North Derbyshire and Nottinghamshire. Whatever level of output is reached in the first few years after the war, there should probably be a gradual decline from then onwards.

It follows that pre-war unemployment may be expected to reappear, and it may well be aggravated. Mechanization has increased during the war. Output per man-shift has nevertheless fallen; but this should prove to be only a temporary development. There is clearly a serious danger that the area round Wigan will relapse

¹ The Wigan sub-area defined on Map V, together with St. Helens C.B. The percentages quoted are based on the Census of Population.

² The statistics are for North Staffordshire as well as Lancashire and Cheshire. Costs in North Staffordshire in 1939 were about 16 per cent lower than in Lancashire and Cheshire.

into depression. Recovery would almost certainly be slower in this district than in other parts of Lancashire where unemployment may rise—the weaving district, for instance. The mining area has not the same supply of disused factories as the cotton districts, or the same large supply of labour—especially women—with experience in light industries; though in both these respects the Lancashire coalfield is very much better off than most other depressed mining districts. The lack of vacant factories has to some extent been made good during the war. Large new light engineering works have been built, and from the point of view both of siting and of design appear to be suitable for normal use after the war. It is important that an effort should be made to find a use for these works; for this, along with the weaving district, is the part of the Board of Trade Survey Area where the risk of severe and persistent unemployment after the war is greatest.

Metropolitan Lancashire. It has not been possible to make a detailed inquiry into the problems of Metropolitan Lancashire; only certain broad impressions can be given. The area falls into two largely distinct parts. The eastern part, containing before the war rather less than a fifth of the total insured population, depends principally on cotton (Table 57)—mainly spinning, doubling, and finishing. The same considerations apply to this area as to most of the main cotton districts. There has in the past been considerable unemployment, and with the decline in the demand for cotton goods this may well be increased after the war; on the other hand, this is not one of the areas where dependence on the cotton industry is greatest. There are a number of other flourishing industries—the position of one which is characteristic of part of the area, the hat and cap industry, has been examined in detail elsewhere¹—and a considerable amount of new development has taken place during the war.

The position before the war in the main part of Metropolitan Lancashire, Manchester and Salford, can be judged from Table 58. Manchester and Salford are primarily an engineering centre, a centre of the service trades, and a centre for clothing and miscellaneous manufacturing; only a relatively small proportion of their population is concerned with cotton spinning, weaving, or finishing. As might be expected, in view of the wide variety of Manchester and Salford industries and the importance of the service and other expanding trades, the insured population of these two towns grew between the two wars considerably faster than the insured population of Lancashire as a whole—19 per cent against 8 per cent between 1923 and 1937. Even an increase of 19 per cent fell short of the national increase of 22 per cent; but it did not fall far short. Unemployment

¹ See *Studies in Industrial Organization*, edited by H. A. Silverman.

in Manchester itself has been consistently below the national level, and comparatively little affected by the trade cycle. At Salford, where heavy engineering (especially electrical engineering) is particularly important, unemployment reached a very high level during the early 'thirties—31 per cent in the worst year, 1931. In peak years of the trade cycle unemployment even at Salford was only slightly above the national level.

There is little reason to fear for the future so far as the service trades and many of the miscellaneous manufacturing industries of Manchester and Salford are concerned. The danger of depression here—and there is a real enough danger—is in engineering. There is no question that the high level of activity attained in 1937 in the Manchester engineering trades would not have been reached without the stimulus of rearmament. The share which Manchester firms obtained in the contracts allotted in the earlier days of rearmament is illustrated by figures quoted in *Readjustment in Lancashire*. Of 4,000 contracts entered into by the Services in the first seven months of 1936, some 353 came to the Board of Trade Survey Area, and 'the great bulk of the 353 went to firms within fifteen miles of Manchester'. These contracts went to other industries besides engineering; but engineering certainly accounted for a high proportion. Apart from its general importance as an engineering centre, the Manchester district has special facilities for dealing with particular types of armament demand. The important Manchester machine-tool industry is an example; it has specialized largely on the heavy types of machine which have been in particular demand for armament work. What will actually happen to the engineering industries is as uncertain in the Manchester district as in most other areas; but it is clear that there is a danger that the disappearance of armament activity will entail a serious drop in employment.

The most obvious immediate offset to a possible fall in engineering employment, here as elsewhere, is an expansion in building. The Manchester conurbation, with a population in 1931 of 2,400,000,¹ is the largest in Britain after Greater London, and many of the problems discussed in a later chapter in considering the case of London arise here on a smaller scale. Extensive replanning and re-development is needed, in addition to the detailed re-shaping of unsatisfactory areas and replacement of buildings which are needed in all parts of the country alike. The rise in employment in the building trades may go some way to offset a decline in engineering. It must be remembered, on the other hand, that the number of insured workers in the building trades in Manchester and Salford in

¹ The area of the Manchester Conurbation is taken as that defined by Professor Fawcett, *Geographical Journal*, February 1932. It is bounded (approximately) by Oldham, Marple, Bowdon, Irlam, Atherton, Bolton, Turton, Bury, and Rochdale.

TABLE 53
MANCHESTER AND SALFORD

Estimated Number of Insured Workers, aged 16-64, July 1923 and July 1937

Industry	Estimated No. of insured workers aged 16-64		Increase (+) or Decrease (-) from July 1923		No. in each industry as % of total insured July 1937	
	July 1923	July 1937	No. (000's)	%	Manchester and Salford	Great Britain
General Engineering	37,630	27,790	- 10	- 26	6.1	4.6
Electrical Engineering	11,530	21,960	+ 10	+ 90	4.8	0.9
Motors, Cycles, Aircraft	8,510	11,460	+ 3	+ 35	2.5	2.6
Electric Cables, Apparatus, Lamps, etc.	4,070	8,650	+ 5	+ 112	1.9	1.3
Marine and Constructional Engineering	980	2,060	+ 1	+ 110	0.4	0.7
Miscellaneous Metal Goods	3,620	3,900	nil	- 8	0.9	2.0
Non-ferrous Metal Manufacturing	3,510	4,240	+ 1	+ 21	0.9	1.0
Tailoring	15,460	22,250	+ 7	+ 44	4.8	1.6
Shirts, Collars, etc.	7,980	17,990	+ 10	+ 125	3.9	0.6
Dressmaking, Millinery, etc.	10,560	4,990	- 6	- 53	1.1	0.8
Cotton	29,180	24,440	- 5	- 16	5.3	3.1
Textile Finishing	12,480	12,090	nil	- 3	2.6	0.7
Bread, Biscuits, Cakes	5,770	7,550	+ 2	+ 31	1.6	1.3
Other Food	1,840	3,790	+ 2	+ 106	0.8	1.0
Drink	2,760	3,350	+ 1	+ 21	0.7	0.9
Printing, Publishing, etc.	11,150	15,960	+ 5	+ 43	3.5	2.1
Chemicals	8,650	10,670	+ 2	+ 23	2.3	1.7
Rubber	11,970	9,570	- 2	- 20	2.1	0.5
Furniture	3,450	7,950	+ 4	+ 130	1.7	1.1
Cardboard Boxes, etc.	2,680	3,970	+ 1	+ 48	0.9	0.5
Coal Mining	7,610	5,650	- 2	- 26	1.2	6.6
Building	16,570	21,000	+ 4	+ 27	4.6	7.7
Public Works Contracting	2,510	3,090	+ 1	+ 23	0.7	2.2
Dock, Harbour, Canal Service	7,040	4,740	- 2	- 33	1.0	1.2
Road Transport (not Tram or Bus)	5,540	6,010	nil	- 8	1.3	1.5
Distribution	65,700	85,500	+ 20	+ 30	18.6	15.2
Hotels, etc.	7,310	8,880	+ 2	+ 21	1.9	3.3
Laundries	2,300	4,140	+ 2	+ 80	0.9	1.3
All other Industries and Services	78,010	96,580	+ 19	+ 24	21.0	32.0
Total, all Industries and Services	386,370	460,220	+ 74	+ 19	100.0	100.0

From the Evidence of the Ministry of Labour to the Barlow Commission.

1937 was no more than 24,000,¹ as against over 70,000 in the engineering and electrical apparatus trades; even allowing for the indirect employment given by a building programme, only a small decline in engineering could be offset in this way.

Over a rather longer period there are a number of other possibilities of growth. The clothing industries, in particular, seem likely to continue to expand. The Manchester and Salford area obtained considerably more than its share of the net increase in the number of clothing workers in Lancashire between 1923 and 1937; Manchester and Salford contained 65 per cent of the insured workers in tailoring, dressmaking, and the shirt and underclothing group in the county of Lancashire in 1923, and obtained 82 per cent of the net increase from then until 1937. It is at first sight surprising that the share of the Manchester area should have been so high, in view of the availability of disused factories and unemployed textile workers in the cotton districts, and of periodic and not unjustified complaints (examined in detail in the *Industrial Survey of Lancashire*) of difficulty in obtaining the right type of labour in Manchester; manufacturers appear on the whole to have preferred to remain where they could keep in close touch with their markets. The high proportion of women employed in the clothing industries of course makes an expansion here of only limited value as an offset to a contraction in engineering; but even from this narrow point of view further growth in the clothing trades would be useful.

Taking these and other possibilities into account, there is little reason to fear that in the long run Manchester and Salford will not resume a satisfactory rate of expansion. In the short run there is a risk of unemployment which requires to be carefully watched.

(4) MERSEYSIDE²

The industrial structure of Merseyside is unlike that of any other part of Lancashire. The textile industries and mining are almost entirely absent. The chief economic activities of Merseyside are the import of raw materials for the main industries of Lancashire, Cheshire, and the West Riding, the export of their manufactured products, and the importation and processing of foodstuffs and other basic requirements of the people living in the same area. Merseyside factories, unlike those of the cotton districts, are for the most part large, and the type of labour employed in them is different. The proportion of women to all workers in Merseyside is high, as elsewhere

¹ Together with a few hundred workers—the exact number is not available—in electrical wiring and contracting.

² The section which follows is based principally on *The Distribution of Population and the Location of Industry on Merseyside*, by W. Smith, published by the University of Liverpool in 1942. An expanded version of this report had previously been submitted as one of the reports of the Nuffield Survey.

in Lancashire; there were forty-three insured women workers¹ in 1939 for every hundred insured men, as against the national figure of thirty-seven. There is not, however, a great demand for women with a high degree of skill, or the traditional deftness which is found in the cotton districts; the work in Merseyside for men and women alike is for the most part of a relatively rough and unskilled type.

TABLE 54
EMPLOYED INSURED WORKERS, MERSEYSIDE, 1939

	Percentage of all employed insured workers engaged in each industry	
	Merseyside	United Kingdom
Food, Drink, Tobacco	8.4	4.3
Textiles, Clothing	3.9	11.1
Metals and Engineering	13.6	19.1
Fishing, Mining, etc.	0.0	6.5
Other Manufacturing Industries	14.7	12.7
Transport	15.0	6.1
Distribution	19.1	14.9
Other Services	25.3	25.3

Total number of workers on Merseyside, 1939:

Insured	424,000
Employed Insured	345,000

For many purposes, the most useful classification of Merseyside industries is in terms of the six groups of Table 55. Activity in the first of the six groups, shipping, shipbuilding, and port services, declined heavily over a number of years before the war, principally as a result of the decline in exports of textiles. The annual value of exports from the Port of Liverpool averaged £253 millions between 1927 and 1929, and £146 millions between 1935 and 1937, a fall of £107 millions, or 42 per cent. Of this drop, cotton contributed £42 millions, woollen and worsted goods £10 millions, and other textiles £9 millions. Iron and steel exports fell by £10 millions. The value of imports fell by 20 per cent over the same period; but this figure must be considered in the light of the fall in import prices after 1929.² Employment in the shipping service and in dock, harbour and canal services fell 20 per cent between 1927 and 1937. Employment in shipbuilding and ship-repairing was relatively well maintained, though with a sharp drop in the worst years of depression; Merseyside is concerned more with ship-repairing than with shipbuilding, and

¹ Aged 16-64.

² For the country as a whole the average value of imports appears to have been about 30 per cent lower in 1935-7 than in 1927-9, on the basis of the Board of Trade's indices.

its share in the national output of ships was increasing before the war. 1.6 per cent of the tonnage built in Great Britain for British customers was built on Merseyside in 1914, 2.4 per cent (on the average) in the years from 1922 to 1926, and 5.2 per cent in the years from 1934 to 1938.

TABLE 55
MERSEYSIDE: INSURED WORKERS EMPLOYED IN CERTAIN
INDUSTRY GROUPS, 1939

	Approximate percentage employed in each group
Shipbuilding, etc., shipping, port services	15½
Industries working up imported raw materials	18
Industries ancillary to preceding group	1
Industries, other than the above, located in Merseyside for convenience of export	1
Other 'basic' industries	14½
Local industries and services	50
	<hr/> 100 <hr/>

'Basic' industries are those which produce principally for a market outside their own district; 'local' industries those which produce mainly for a local market.

The industries of the second group are extremely varied. Most of them can be divided into series of associated trades, each headed by a highly localized port industry and including less highly localized industries which have been attracted to Merseyside because they use the port industry's products. Grain-milling and the biscuit industry form one series. Oil-seed and oil-cake mills, with the associated soap, candle, and paint and varnish industries, form another. A third includes sugar-refining, jam and preserve manufacturing, and sugar confectionery. The animal feeding-stuffs industry obtains its raw materials from all three of these series. There are important tobacco works, and an associated industry of nicotine manufacturing. Other industries engaged in processing raw materials include sole-leather tanning, newsprint manufacturing, matches, saw-milling, tin smelting, and rubber footwear. Rayon manufacturing, based partly on imported wood-pulp and partly on chemicals drawn from the Lancashire chemical district, might be counted either with this group or with the group of miscellaneous manufacturing industries.

Employment in this group as a whole showed little tendency either to increase or to diminish before the war. Employment in tobacco manufacturing fell, employment in the rayon and rubber industries increased, and there were a variety of other changes. On balance, there was a slight increase of employment in this group and in the

group of ancillary industries—principally the industries making cardboard or metal containers.

The chief increases of employment in Merseyside in recent years have occurred in the fifth and sixth groups, the service trades and the miscellaneous manufacturing industries. Employment in the service industries increased in Merseyside down to the war in the same way as in the rest of the country. The apparent growth in employment in the miscellaneous manufacturing industries between 1927 and 1939 was due largely to a rise of about 8,000 in the number employed in the aircraft industry as a result of rearmament; but substantial increases of more permanent value also occurred in the hosiery, overall, and electric cable and apparatus industries.

TABLE 56
INSURED WORKERS ON MERSEYSIDE. 000's

<i>In Employment:</i>	1923	1927	1929	1932	1937	1939
Food, Drink, Tobacco . . .	30	31	31	28	28	29
Textiles, Clothing . . .	12	12	12	11	14	13
Metals, Engineering . . .	33	36	33	25	36	47
Fishing, Mining . . .	1	1	—	—	—	—
Other Manufacturing . . .	41	44	41	38	47	51
Transport . . .	68	62	59	53	54	52
Distribution . . .	50	65	70	74	66	66
Other Services . . .	56	69	59	54	75	87
Total in Employment . . .	292	317	307	282	320	344
<i>Unemployed</i> . . .	63	54	60	108	83	80
Total . . .	355	370	367	391	403	424

From Smith, *op. cit.*

The net effect of the decline in port activity, the stability of employment in the industries processing imported raw materials, and the increases in employment in services and the miscellaneous manufacturing trades can be judged from Table 56. Allowing for the effects of a change in the insurance age limit in 1927,¹ the total amount of insurable employment available on Merseyside was about 3½ per cent greater in 1937 than in 1927, as against a rise of 15 per cent in the country as a whole; declines in the food, drink, and tobacco and transport groups were roughly balanced by an increase of employment in the service industries, with smaller increases in the textile and clothing and miscellaneous manufacturing groups.²

¹ The causes of the changes in employment in some of the service industries—particularly of the drop in employment in distribution after 1932—need further investigation.

² Approximately 3 per cent of the workers insured in Great Britain in 1927 (those aged 65 or over) were excluded from insurance in later years.

The rise in employment which occurred between 1937 and 1939 was due largely to rearmament.

Merseyside has a high rate of natural increase, and it is not surprising that the stagnation of employment in the 'thirties and the last part of the 'twenties was accompanied both by heavy unemployment and by a considerable amount of emigration. Nearly 80,000 people, the equivalent of about $5\frac{1}{2}$ per cent of the population, left Merseyside on balance between the middle of 1927 and the middle of 1932, when emigration was checked by the rise in unemployment in the country as a whole; a further 30,000 left on balance between the middle of 1932 and the middle of 1938. The proportion of insured workers unemployed on Merseyside was 28 per cent in 1932 against 22 per cent for Great Britain as a whole, and 20 per cent against 13 per cent in 1938; the figures for the same years for the London and South-eastern Divisions were 14 and 8 per cent. The heaviest concentration of unemployment was in shipbuilding and the shipping service, which accounted for a third of all unemployment on Merseyside in 1939, as against 18 per cent of the insured population. The number of women employed increased by 28 per cent between 1927-9 and 1938, and unemployment among women was relatively low; the industries where unemployment was heaviest were predominantly men's trades.

Taking Merseyside as a whole, there is no reason to expect that employment in manufacturing industry (in the absence of special measures of encouragement) will be either much greater or much less after the war than before it; a small net increase seems most likely. Nor is there any reason to expect a substantial influx of new industries; an average of five factories a year were opened on Merseyside between 1933 and 1937, and these were balanced by an almost exactly equal number of factories closed. Employment in the service industries may again increase; but there is no reason to think that the increase will be sufficiently rapid, even when combined with some expansion in manufacturing industries, to prevent a re-emergence of severe unemployment if the level of port activity is no higher than before the war. Severe unemployment can be avoided only by an increase in the employment directly or indirectly provided by the Port of Liverpool, or by definite measures to introduce new industries to Merseyside on a considerable scale.

The outlook for employment in the port industries is by no means favourable. It is probable that the traffic passing through the port after the war will be handled more efficiently than before, and that the employment caused by a given volume of trade will be less; reorganization of the transport and warehousing system at the docks seems particularly likely to reduce employment. The volume of traffic would have to be very much greater than before the war to

ensure an adequate rise in employment, and it would be unreasonable to expect an increase on anywhere near the necessary scale. There are two factors to be considered, the probable nature and volume of British exports and the prospective import demand. The second of these offers more hope for the future; the maintenance of something approaching full employment and of a high level of incomes in Lancashire, Cheshire, and the West Riding would undoubtedly add considerably to the demand for foodstuffs and raw materials imported through Liverpool. In the case of exports, there is certainly some reason to expect that the volume of British goods sold abroad or exported in connexion with international investment will be increased in one way or another; but there is equally some reason to doubt whether there will be a great net increase in Liverpool's trade as a result. Over a quarter of Liverpool's exports between 1935 and 1937 consisted of cotton goods; a substantial drop in this category is to be expected in any case, and would have to be offset before any net increase in the total volume of exports could occur. It is reasonable to hope that Liverpool's trade will be greater than before the war; it would be unreasonable to expect that trade will be so much greater as to prevent the reappearance of a large amount of unemployment on Merseyside.

The surplus of labour on Merseyside—the number of men unemployed in excess of the number who would have been out of work if unemployment had stood at the level of London and the South-east—was rather less than 40,000 between 1927 and 1929, and over 60,000 in 1937. Assuming (optimistically) that an increase in the volume of trade passing through the port and a rise in building activity provides direct or indirect employment for up to 30,000 workers, and that the natural increase of the working population, which is still considerable, is provided for by the natural growth of employment in existing industries and services, it may be necessary to find work in new industries within a few years after the war for up to 30,000 unemployed. Some of these unemployed could undoubtedly emigrate to other parts of the country, if the general level of employment was sufficiently high; but the desirability of this is questionable. The introduction of new industries to employ at least 20,000 workers should be taken as a minimum aim.

A considerable amount of new industrial development has taken place in Merseyside during and just previous to the war, and if the new factories built could be kept in operation, either as single units or as groups of separate units on trading-estate lines, the problem of providing new industries would be largely solved. A large air-frame factory built for the Government at Speke shortly before the war was chiefly responsible, as has already been mentioned, for the rise of employment on Merseyside in the motor, cycle, and aircraft group

of the Ministry of Labour's classification from 2,200 in 1937 to 9,900 in 1939, and other important developments in engineering and a variety of other forms of munition work have taken place on both sides of the Mersey and on the inland edge of the Mersey conurbation. The motor industry offers obvious possibilities of large-scale development; motor assembly work and motor-engine manufacture might both prove suitable for Merseyside. The air-frame factory, with its high sheds and wide clearances, might prove suitable for the manufacture of prefabricated housing units for use in South-west Lancashire and Cheshire.¹

Large-scale developments capable of using the full capacity of the main munition factories on Merseyside may or may not prove practicable; in any case, they will undoubtedly need to be supplemented by the attraction of new small industries. The Liverpool Corporation's industrial estate at Speke, developed in the last years before the war, was in many ways a model of the lines which action to attract small or medium-sized new industries should take. At the same time, its experience was a warning that something more than local action (whether by the local authority or by some outside agency) is necessary if enough entirely new industries are to be brought into the area. Most of the factories which came to the Speke estate, with the conspicuous exception of the air-frame factory, originated in Merseyside itself; the existence of the estate was an important factor in facilitating the expansion of works previously situated in congested areas, or in preventing these works from leaving Merseyside altogether, but did not result in the attraction of many firms from outside the area. It is not unfair to say that the facilities available at Speke were on a level with those offered on the trading estates at Treforest or Hillington, which were much more successful in attracting industries entirely new to their areas; on the other hand, Liverpool did not benefit from the intensive propaganda and the variety of other measures applied on a national scale both by the Government and by private agencies to persuade firms to go to the Special Area estates. Experience at Speke certainly suggests that action on a national scale will be necessary if an adequate amount of entirely new industry is to be brought into Merseyside.

Any programme for bringing new industry to Merseyside will have to take account of the characteristics of existing Merseyside industry which have already been stressed. There is a relative shortage of skilled men with the qualifications needed for the industries in which expansion is most likely, and there is a lack among both men and women of experience in light industries. The experience of the one rayon firm on Merseyside is an illustration of the difficulties which

¹ Since this was written the Speke air-frame factory has been leased to the Dunlop Rubber Co. for post-war use.

may arise from this source. When this firm first established itself it found great difficulty in obtaining enough women workers with the lightness of touch and experience in the cleaner and more delicate types of light industry needed for the finishing processes of rayon manufacture; in its first years the firm had to train its own labour. This is a special disadvantage of Merseyside, which would not arise in most other parts of Lancashire. Experience both during and before the war has shown that it can be overcome; but it is necessary to take account of it, since in many cases special schemes of training for new industries are likely to be required.

(5) LANCASHIRE AS A WHOLE—CONCLUSIONS

The general impression given by a survey of Lancashire is that there is a risk of depression at least as severe as was experienced down to the war. There is no part of Lancashire which is entirely without problems of unstable or decaying industries—even the Fylde area has its own comparatively small problems. The Barrow area has an industrial structure which may in an appropriate setting provide prosperity, but which may equally contribute to depression by its lack of balance. The problems of the engineering industries in the Manchester and Salford area also need to be watched; and there may be considerable unemployment in some parts of the southern and eastern half of the coal and chemical district. In the cotton districts, including both the spinning and the weaving areas, there is a risk of even greater unemployment than before the war, and the same is true of the coal mining area round Wigan and, possibly, of Merseyside.

To this risk there are substantial offsets. There is the considerable amount of industrial development during the war, sited in a very large number of cases in the districts where depression may be most serious. There is also Lancashire's good pre-war record in attracting new industries, and the experience built up by local authorities and the Lancashire Development Council. There is no question of having to start from scratch with the attraction of new industries, as in the 'twenties and early 'thirties; a considerable amount of new industry had already been developed in Lancashire before the war, and experience of methods of encouraging further development had been accumulated.

The accumulated experience of the last twenty years, the growth of new industry, and the retention, even without special measures of encouragement from the central Government, of a certain amount of the industrial development which has occurred during and just before the war will make a considerable difference to Lancashire; but it is clear that these things are not enough by themselves to prevent heavy unemployment in a number of districts, extending over several years from the end of the first period of reconstruction.

Lancashire is one of the areas which will need to be assisted by extensive action on a national scale to bring in new industries.

There remains a query, with which it is perhaps not inappropriate to finish. In the long run, if the right measures are applied, there is no reason to fear that there will not be enough new development in manufacturing and service industries to absorb all the excess unemployment in Lancashire. It is also possible that in the circumstances of the first few years after the war the introduction of new industries may be able to proceed fast enough to prevent unemployment arising even in the short run. But what is to happen if this proves impossible, and unemployment begins to develop after two or three years of peace? An interim solution will be needed; employment in the older industries will have to be maintained. It may not necessarily have to be maintained by subsidies; it may be possible to arrange programmes for raising the home and colonial standard of living, international investment, and so on, in such a way as to benefit Lancashire particularly. What should be done on these lines, assuming that action of this kind is needed at some stage, to fit the circumstances of the cotton districts, the mining area, or Merseyside—or, possibly, of parts of Metropolitan Lancashire, though this area would for obvious reasons present an easier problem?

CHAPTER VIII

THE WEST RIDING

THE West Riding, as defined for the purposes of the Census of Production, depended before the war chiefly on seven groups of trades—wool, coal, clothing, iron and steel, engineering, tools and cutlery, and cocoa and chocolate. The last of these is localized at York, which did not form part of the area covered by the Nuffield Survey; in 1935 nearly 10,000 workers were employed in this industry at York out of 13,000 in the West Riding as a whole. If the cocoa and chocolate industry is left out of account, it appears that of roughly 775,000 workers in Census of Production industries in 1935 some 530,000 or 535,000—nearly 70 per cent—were engaged in the other six main groups, and trades closely allied to them. The industries in which the West Riding's share in the total national employment is greatest are wool, iron and steel smelting and rolling, and tools, implements, and cutlery. The woollen and worsted industry should be taken to include most of the minor textile trades, which exist largely to serve it. The cotton spinning and doubling firms are mostly small concerns engaged in supplying cotton yarns for use by woollen firms, and there are a number of rayon-weaving firms which also weave cotton and wool. Textile finishing is, of course, concerned principally with wool.

TABLE 57
CENSUS OF PRODUCTION, 1935: EMPLOYMENT IN THE
WEST RIDING

	000's Workers Employed	% of National Total
Woollen and Worsted	177	73.5
Textile Finishing	17	17
Cotton Spinning and Doubling	11	6.5
Silk and Rayon	10	12
Coal Mines	140	19
Tailoring, Dressmaking, etc.	59	17
Mechanical and Constructional Engineering	46	11
Iron and Steel Smelting and Rolling	41	30
Iron and Steel Foundries	9	8.5
Tool and Implement	14	57
Cutlery	8	77
Cocoa and Sugar Confectionery	13	18
Total: Main Groups	545	—
Total: All Groups	787	11

The West Riding is one of the ring of areas in the Midlands and North of England which were neither prosperous nor outstandingly depressed in the years before the war. The unemployment maps¹ show that the West Riding was, on the whole, worse off than the average of Great Britain, but not much worse off; unemployment in the West Riding averaged 20·1 per cent between 1931 and 1936, or 1·7 per cent more than the national average of 18·4 per cent. In 1937 unemployment in the West Riding fell practically to the national level, rising again to 1·6 per cent above it in 1938. The more detailed unemployment statistics show that the excess of unemployment in the West Riding over the national level was due largely to the trade cycle. Wool, coal, iron and steel, and engineering all figure prominently in the list of trades particularly sensitive to the trade cycle, and dependence on these industries is largely responsible for the fact that unemployment in the West Riding rose from 2 per cent above the national level in 1928 and 1929 to 4 per cent above it in 1931, and then fell back to 0·3 per cent above it in 1936 and 1937. In 1937 there were about 50,000 workers in the West Riding affected by persistent excess unemployment. This was equivalent to $4\frac{1}{2}$ per cent of the insured population, as compared with $7\frac{1}{2}$ per cent in Lancashire, Cheshire, and North Wales, and 11 per cent on the North-east Coast; a serious problem, but nowhere near as serious as in the acutely depressed areas.

Although unemployment in the West Riding was less acute than in many other parts of the North of England, there was not enough work in the county to provide for the natural increase of population, and unemployment was kept down partly by emigration. The population of the West Riding and York County Borough increased between 1931 and 1938 from 3,446,000 to 3,460,000, by no more than 0·4 per cent. Over the same period the population of Great Britain rose 3·2 per cent. It has been estimated² that between 1927 and 1931 the West Riding lost about 0·2 per cent of its population by emigration each year, and that between 1931 and 1936 the proportion rose to 0·25 per cent. This was about the same rate of loss as was experienced in Lancashire after 1931; it was, of course, far less than the rate of loss in more seriously depressed districts and in many rural districts either before 1931 or after it.

The Ministry of Labour's evidence to the Barlow Commission showed that the number of insured workers in the West Riding, Nottinghamshire, and Derbyshire together increased between 1923 and 1937 by 15 per cent, against an increase of 22 per cent in the whole of Great Britain, and that the industries which were expanding in the country as a whole actually expanded faster than the national average in these three counties. The West Riding as a whole was

¹ Chapter I, Map III.

² Chapter I, Table 7.

evidently not a depressed area in the sense either of an area suffering from unemployment far above the average and heavy losses of population or of an area without hope for the future. At the same time, it was far enough over the margin of depression for its problems to deserve very careful consideration.

The industries of the West Riding, excluding York, are divided for the most part between two districts. The first, West Yorkshire, is roughly triangular, with the points of the triangle at Pontefract, Skipton, and some way South of Huddersfield. This area contains the woollen industry, almost all the part of the clothing industry which does not serve purely local needs, a large mining area, and a variety of engineering industries. The other industrial district, South Yorkshire, depends on coal, iron and steel, tools and cutlery, and engineering. Like West Yorkshire it is roughly triangular, with points at Penistone, Doncaster, and Chesterfield; it extends far enough into Derbyshire to include the northern part of the Derbyshire coal and iron district.

This division between West and South Yorkshire is based on industrial characteristics, and would have to be modified slightly to take full account of the distribution of coal mining. What is geologically a single coalfield runs from Leeds southwards and eastwards to Nottingham and Derby. For many purposes this field can conveniently be regarded as a number of separate units—West Yorkshire, South Yorkshire, Nottingham, and North Derbyshire—which do not correspond exactly to industrial divisions. The correspondence is closest in the case of West Yorkshire. The boundary of the South Yorkshire field—a purely arbitrary division—is the Yorkshire border, which the South Yorkshire industrial area overflows; inside the border, the coalfield tends to overflow the edges of the triangular industrial district. In discussing the West Riding it is probably best to follow the division of the coalfields, which for practical purposes is sufficiently similar to the division between the industrial districts which lie inside the West Riding border.

WEST YORKSHIRE

The population of West Yorkshire shortly before the war was about a million and a half, and the insured population in 1936 was 680,000.¹ The insured population of the twelve chief towns was 508,000 in 1935 and 510,000 in 1936. A hundred and forty thousand of the insured workers in the twelve towns in 1935, or about 27½ per cent, were engaged in the woollen and worsted industry, and a further 2½ per cent in textile dyeing and finishing. Nine and a half per cent (47,750) were in tailoring, 7 per cent (36,850) in general engineering,

¹ Figure from J. H. Richardson, *Industrial Employment and Unemployment in West Yorkshire, 1936*, which has been extensively used in writing this chapter.

and 2½ per cent in printing and bookbinding. There were, in addition, 34,350 miners in the twelve towns and Pontefract; the average number employed in the whole of the West Yorkshire field in 1935 was 43,000.

These industries are not spread evenly over the area. The division of the woollen and worsted trade and of ancillary industries such as textile finishing remains to-day very much the same as when the Balfour Committee described it:

‘Within the West Riding area there is a large amount of specialization as between different localities. To a certain extent the woollen and worsted branches are concentrated in separate districts, though the separation is by no means complete. The worsted branch is located mainly in and around Bradford, Halifax, and Keighley, to the west and north; while the woollen branch is located mainly about Leeds, Batley, Dewsbury, and Morley—to the east and south. In Huddersfield both branches are carried on, some of the best worsteds for men’s wear and some fine woollens being produced. The Colne Valley above Huddersfield specializes on cheaper kinds of woollen goods, while Dewsbury and Batley specialize mainly on still lower qualities in which shoddy plays a large part. Leeds produces a somewhat wide variety of woollen goods, together with a considerable amount of worsted yarns and cloth. Bradford is the centre of wool-combing and of the manufacture (together with Halifax) of worsted dress goods for women’s wear, and is the principal commercial centre of the industry, though it is naturally more concerned with worsteds than with woollens.’ (Committee on Industry and Trade, *Survey of Textile Industries*, p. 165.)

Most of the mining output is raised to the east of a line from Leeds to Wakefield; west of this line, though coal is still worked, the seams are thinner and the pits older, and the amount of employment given is considerably less. Tailoring is concentrated overwhelmingly in Leeds. Printing and publishing, in so far as it is not a purely local industry in the same sense as baking or distribution, is concentrated at Leeds and, to a smaller extent, at Bradford. In 1937 the proportion of Leeds workers engaged in printing, publishing, and bookbinding was not far short of twice the corresponding proportion for the country as a whole. Engineering is exceedingly varied, and scattered among the main towns—Leeds, Huddersfield, Bradford, Keighley, Halifax, and Wakefield. Leeds has tended in the past to specialize in locomotives, Huddersfield in gears, valves, and boiler-house equipment, Bradford and Keighley in textile machinery, and Halifax in machine-tools; but there is no sort of uniformity about the products of any of the main centres.

West Yorkshire has no dominating centre; it is an area of large

towns, with Leeds and Bradford standing out, but not in such a way as to dominate the whole region. The uneven spread of the chief industries and the division of the population among a large number of towns has resulted in a great variety of industrial structures. There are towns in the east—Ponterfract, Castleford, and to a smaller extent Wakefield—which depend on coal. In the west there are towns, such as Batley or Morley, which depend overwhelmingly on wool. In between there are towns with a wide variety of structures, including several cases where industries other than those which are dominant in the region as a whole rise into local importance—carpets and wire ropes at Spenborough, for instance. There is a striking contrast between the two largest towns, as the tables show. In 1937 more than a quarter of the insured workers of Leeds were in tailoring, with engineering and wool far behind, and there was a variety of smaller industries—printing and publishing, furniture, chemicals, miscellaneous metal-working, boots and shoes, and leather and leather goods—providing in the aggregate a substantial amount of employment. In Bradford 43·4 per cent of all insured workers were in wool (principally the worsted branch) or in textile finishing, and a further 3·3 per cent were in the silk and rayon group, while the minor industries were much less well represented in proportion to the insured population than at Leeds.

TABLE 58
ESTIMATED NUMBERS OF INSURED PERSONS, AGED 16-64,
IN THE CHIEF TOWNS OF WEST YORKSHIRE.
PERCENTAGE CHANGE, 1924-35

	%
Leeds	+ 18·8
Wakefield	+ 3·4
Halifax	+ 3·1
Dewsbury	+ 1·0
Huddersfield	+ 0·9
Bradford	- 0·6
Spenborough	- 2·3
Keighley	- 7·1
Shipley	- 10·3
Morley	- 14·0
Castleford	- 14·0
Batley	- 16·4
Total	+ 3·8

From Richardson, *op. cit.*

As a result of the variety of industrial structure, the impact on different towns of developments in the twenty years before the war was far from uniform. There was a tendency for employment to

TABLE 59

ECONOMIC STRUCTURE OF LEEDS AND BRADFORD, 1923-37

Estimated number of insured persons, aged 16-64, in July 1923 and July 1937

LEEDS

Industry	Estimated No. of insured persons aged 16-64		Increase (+) or Decrease (-) 1923-37		No. in each industry as % of total insured persons at July 1937	
	July 1923	July 1937	No.	% of July 1923	Leeds	Great Britain
Tailoring	28,800	50,030	+21,230	+ 74	25.6	1.6
Wool	17,390	14,860	- 2,530	- 14	7.6	1.7
General Engineering, etc.	18,220	13,960	- 4,260	- 23	7.2	4.6
Motor Vehicles, Cycles, and Aircraft	1,050	2,440	+ 1,390	+132	1.3	2.6
Miscellaneous Metal Goods Industries	1,140	2,530	+ 1,390	+122	1.3	2.0
Printing, Publishing, and Bookbinding	5,200	7,010	+ 1,810	+ 35	3.6	2.1
Furniture-making and Upholstering	2,030	3,250	+ 1,220	+ 60	1.7	1.1
Chemicals (including Explosives, Oil, Paint, Soap, Ink, etc.)	2,320	2,980	+ 660	+ 28	1.5	1.7
Boots, Shoes, Slippers, and Clogs	3,000	2,390	- 610	- 20	1.2	1.0
Leather and Leather Goods	2,130	2,370	+ 240	+ 11	1.2	0.6
Building	6,870	11,940	+ 5,070	+ 74	6.1	7.7
Public Works Contracting	1,910	2,470	+ 560	+ 29	1.3	2.2
Distributive Trades	15,670	26,940	+11,270	+ 72	13.8	15.2
Hotels, Boarding-Houses, etc., Service	2,820	3,150	+ 330	+ 12	1.6	3.3
Gas, Water, and Electricity Supply	1,740	3,100	+ 1,360	+ 78	1.6	1.6
Road Transport (other than Tramway and Omnibus Service)	1,440	2,840	+ 1,400	+ 97	1.5	1.5
Laundries, Job Dyeing, and Dry Cleaning	850	2,180	+ 1,330	+156	1.1	1.3
All other Industries and Services	39,790	40,640	+ 850	+ 2	20.8	48.2
Total, all Industries and Services	152,370	195,080	+42,710	+ 28	100.0	100.0
		BRADFORD			Bradford	
Wool	60,320	47,620	-12,700	- 21	39.3	1.7
Textile Bleaching, Printing, Dyeing, etc.	7,910	4,990	- 2,920	- 37	4.1	0.7
Silk and Artificial Silk	1,990	3,960	+ 1,970	+ 99	3.3	0.6
General Engineering, etc.	4,570	5,110	+ 540	+ 12	4.2	4.6

TABLE 59—BRADFORD—(Contd.)

Industry	Estimated No. of insured persons aged 16-64		Increase (+) or Decrease (-) 1923-37		No. in each industry as % of total insured persons at July 1937	
	July 1923	July 1937	No.	% of July 1923	Bradford	Great Britain
Electrical Engineering .	620	2,530	+ 1,910	+308	2.1	0.9
Motor Vehicles, Cycles, and Aircraft .	590	1,520	+ 930	+158	1.3	2.6
Printing, Publishing, and Bookbinding .	1,780	2,820	+ 1,040	+ 58	2.3	2.1
Bread, Biscuits, Cakes, etc. .	560	1,750	+ 1,190	+212	1.4	1.3
Furniture-making, Upholstering, etc. .	860	1,250	+ 390	+ 45	1.0	1.1
Dressmaking and Millinery Building .	540	1,010	+ 470	+ 87	0.8	0.8
Distributive Trades .	3,690	5,530	+ 1,840	+ 50	4.6	7.7
Laundries, Job Dyeing, and Dry Cleaning .	10,990	18,770	+ 7,780	+ 71	15.5	15.2
Road Transport (other than Tramway and Omnibus Service) .	620	2,360	+ 1,740	+281	2.0	1.3
Gas, Water, and Electricity Supply .	680	1,500	+ 820	+121	1.2	1.5
Hotel, Boarding-House, etc., Services .	1,180	1,430	+ 250	+ 21	1.2	1.6
All other Industries and Services .	950	1,340	+ 390	+ 41	1.1	3.3
	18,520	17,700	- 820	- 4	14.6	53.0
Total, all Industries and Services .	116,370	121,190	+ 4,820	+ 4	100.0	100.0

Based on the Evidence of the Ministry of Labour to the Barlow Commission.

become concentrated in the larger towns and in those with a more varied industrial structure, and to fall heavily in many of the smaller wool or coal towns. Bradford benefited from a rise in employment in electrical engineering and rayon weaving; Leeds received nearly all the benefit of the increase in employment in tailoring, far and away the largest increase in any manufacturing industry; and the big towns generally gained from the increase in employment in the 'local' trades in which the bigger centres have naturally a larger share. Fourteen per cent of the insured workers of Leeds were in the distributive trades in 1935, and 16 per cent of the workers at Bradford, against 6 per cent for Morley and Castleford, $7\frac{1}{2}$ per cent for Shipley, and 8 per cent for Keighley.

The unemployment experienced in the different towns has naturally

differed considerably. At Leeds, Huddersfield, and Halifax unemployment in the 'thirties was consistently below the national level, except at the bottom of the depression; unemployment at Bradford was sometimes above and sometimes below; unemployment at Wakefield and Dewsbury was above the national level more often than not; and at Castleford unemployment was consistently above the general level. The area as a whole showed a level of unemployment slightly below the national average, falling distinctly below it at the peak of the trade cycle in 1936 and 1937, and rising above it at the bottom of the slump; it is noticeable that even Leeds showed unemployment above the national level in 1931. Like the West Riding as a whole, West Yorkshire is exceptionally sensitive to the trade cycle. Persistent excess unemployment in the late 'thirties may have affected about 25,000 workers—about $3\frac{1}{2}$ per cent of the insured population.

TABLE 60
GREAT BRITAIN
AVERAGE EARNINGS OF ADULT MEN IN ONE WEEK IN OCTOBER,
WOOLLEN AND WORSTED INDUSTRY

1931	.	.	.	.	.	49/4
1935	.	.	.	.	.	55/3
1938	.	.	.	.	.	57/6

Earnings have not been high; the average earnings of men in the woollen industry, as quoted in Table 60, compare badly with the figures for most other important industrial groups. In 1931 and 1938 there was a good deal more short-time than overtime, and in 1935 overtime predominated; in none of the three years would a correction for this substantially affect the comparison. The low level of men's earnings has been compensated in the past by the high proportion of women who entered industry. In 1935, when there were thirty-seven insured women workers for every hundred men in Great Britain and Northern Ireland, there were fifty-five to every hundred in the twelve leading West Yorkshire towns, and the proportion was well above the national level in every individual town except Wakefield, where it was twenty-four, and Castleford, where it fell to six. The figure for Castleford indicates a definite shortage of women's work.

The war has made no fundamental change in the economic structure of West Yorkshire, though it has caused a temporary disturbance which may in some cases have important permanent results. A certain number of firms have moved into West Yorkshire from other areas, and several important munition works have been built. The woollen industry has contracted, and there have been important developments in mining, engineering, and chemicals. In some cases

—one example is the machine-tool industry—new developments are more of a danger than a gain, and in others they represent an opportunity for gain and not an accomplished fact. Even if full advantage is taken of the opportunities for improving the economic basis of West Yorkshire which have been created by the war it is clear that the future of the area must depend primarily on what happens to the industries which were most important before the war. By and large, firms which held an established position before the war in any of the main industries want to get back to their pre-war lines of production and to escape from concentration and other forms of wartime control. It is agreed that changes are necessary; but it is highly unlikely that they will be revolutionary.

TABLE 61
PRODUCTION AND CONSUMPTION OF WOOLLEN GOODS,
GREAT BRITAIN, 1924-37

	Production	Retained Imports	Exports	Available for home consumption
	Tops.	Million pounds weight		
1924 . . .	285.5	4.7	41.1	249.1
1930 . . .	224.4	2.1	28.8	197.7
1933 . . .	309.5	1.1	45.8	264.9
1934 . . .	274.8	0.7	41.7	233.8
1935 . . .	307.4	0.9	55.9	252.4
1937 . . .	278.5	0.4	40.2	238.7

Woollen and Worsted Yarns. Million pounds weight

1924 . . .	541.1	17.2	60.5	497.8
1930 . . .	362.7	18.7	43.2	338.2
1933 . . .	506.6	0.7	47.9	459.5
1934 . . .	503.1	0.8	46.9	457.0
1935 . . .	526.0	1.3	45.3	482.0
1937 . . .	548.9	2.4	32.3	519.0

Woollen and Worsted Cloth. Million square yards

1924 . . .	440	27	221	246
1930 . . .	316	35	114	238
1933 . . .	386	6.5	94	299
1934 . . .	389	4	102	291
1935 . . .	408	4	110	302
1937 . . .	439	8	123	324

The past history of the woollen industry, though less sensational than that of some of the other old staple trades, is hardly encouraging for the future. At the peak of 1937 the output of tops, yarn, and cloth stood at practically the same level as in 1924. Exports of cloth

and yarns had been practically halved, though this had been partly compensated by the effect of tariffs on the relatively small quantity of imports which came in down to 1930. The home market for cloth had grown considerably, and the market for yarns to a smaller extent; in each case the growth had been barely sufficient to compensate for the net fall in exports. The stable output was produced by a diminishing number of workers; the output of 1937 was produced by 14 per cent fewer workers than the output of 1924. Employment in 1937 stood approximately at the level of 1929, and considerably below the level of 1927 and 1928. In 1938 employment in June fell to a lower level than in any year since 1923, except only for 1931. There was reason to fear that the long-term trend of employment would continue downwards, since it was generally recognized in the industry that there were wide openings for increased efficiency, which might not be fully compensated by the increased demand resulting from it. One pre-war estimate put the proportion of inefficient and redundant equipment in both the manufacturing and finishing sections of the trade at about 25 per cent; the elimination of this equipment would have added to the efficiency of the industry and might well have resulted in a drop in employment.

TABLE 62
CHANGES IN THE ESTIMATED NUMBERS OF INSURED WORKERS
IN EMPLOYMENT IN THE WOOLLEN AND WORSTED INDUSTRIES,
1923-38

Figures for June of each year. Percentage of number in 1923

1923	. . . . . 100.0	1932	. . . . . 70.7
1924	. . . . . 98.0	1933	. . . . . 82.2
1925	. . . . . 81.7	1934	. . . . . 74.9
1927	. . . . . 89.8	1935	. . . . . 78.2
1928	. . . . . 88.7	1936	. . . . . 82.3
1929	. . . . . 85.2	1937	. . . . . 84.5
1930	. . . . . 75.3	1938	. . . . . 67.7
1931	. . . . . 66.4		

From the *Ministry of Labour Gazette*

The slow rate of growth of the home market for woollen and worsted yarns and cloth before 1939 was the outcome of three factors. One was the growth of the hosiery industry, which limited the demand for woollen cloth, though it stimulated the demand for yarn. This factor will continue to operate after the war; it is very probable that the demand for hosiery will continue to grow, though not necessarily as fast as before the war. A second factor was competition from rayon in the markets for yarn and cloth alike. The war has unquestionably stimulated the production of rayon and other

synthetic fibres both in this country and abroad, and it seems probable that even without the special wartime measures of encouragement these fibres will take a bigger share of the market after the war. This is a factor whose importance can easily be over-emphasized. The threat of competition from rayon is much weaker in the case of wool than of cotton, and it can be largely overcome, as in the cotton industry, by using woollen and worsted machinery to spin rayon staple fibre and to weave either staple fibre or filament yarn. The use of rayon in the woollen industry as strictly defined for the Census of Production—that is, by firms still primarily concerned with spinning or weaving wool—had not gone far before the war; about 2½ million pounds of rayon were used in the woollen and worsted trade in 1935, as compared with 110 million pounds of woollen and worsted yarns and 39 million pounds of cotton yarn.¹ It is possible, however, that with the development of staple fibre the use of rayon in the woollen industry will become possible on an increasing scale.

The third important factor in the home market before the war was the rising standard of living, which was accompanied by a rise in the consumption of woollen products. This factor, like the others, may be expected to operate again after the war; and it may be possible to add to its effect by increasing the efficiency of the woollen industry and reducing prices. Woollen and worsted goods have more of a luxury character than cotton goods, and it seems reasonable to suppose that demand for them would prove elastic. Whether the elasticity of demand would be great enough to allow employment to be maintained or increased in the face of rising efficiency is uncertain; there is at any rate little doubt that a substantial increase in output could be obtained. On the balance of this and the two previous factors, the output from the woollen and worsted industry of both yarns and cloth for the home market should at least be maintained at the pre-war level, even after the immediate post-war demand has exhausted itself, and may very well increase—perhaps considerably.

There is a similar balance of considerations in the case of export markets. There have been important developments during the war in export marketing. In February 1941 a National Wool Textile Corporation was formed to promote wool exports, with the long-term aim, as was stated at the time, of building up a kind of Department of Overseas Trade concerned exclusively with wool; it was intended to provide information about markets and to carry on research, not to undertake sales. In addition, woollen products have been covered

¹ The proportion of rayon yarn to all yarn used, in terms of weight, was twice as high in the cotton-weaving industry in 1935 as in the woollen and worsted trade—even in cotton the proportion was of course very low.

by the Export Group scheme, and a wide section of the woollen trade was influenced by the extremely successful experiment begun in 1940 by Marks and Spencer in marketing in the United States cheaper qualities of textiles (as well as certain other types of goods) of a kind which before the war were imported from the Continent. These developments, together with an increase in the efficiency of the woollen industry, should go far to prevent a fall in exports below the pre-war level. Whether they are enough to bring about an increase is more doubtful. Exports will have to meet severe competition from the new synthetic fibre industries which have grown up during the war in all parts of the world. Established export connexions, which might have made it easier to meet this competition, have in very many cases been broken; by the first half of 1942, when the export drive was called off, exports of tops and yarn had been reduced to about a third of the volume of 1937, and exports of cloth to between two-thirds and three-quarters.¹ Further cuts have followed.

On the whole, it seems probable that after the bottled-up demand of the war-years is satisfied the output of woollen products will settle down not very far from the pre-war level, and possibly somewhat above it. Whether or not employment also regains or passes the pre-war level depends on how far rising demand offsets increasing efficiency; stability at about the pre-war level or a slight fall below it seems most likely.

The future of the Leeds clothing industries should be bright. The remarkable expansion which went on right down to the war may well be resumed afterwards. There appears to be some possibility that the wartime tendency for provincial centres to gain at the expense of London may result in a permanent increase in the share of Leeds in the national output, quite apart from any resumption of pre-war trends.

The output of coal in West Yorkshire fell nearly 20 per cent between 1913 and 1929, in a period of open competition, and West Yorkshire's share in the whole national output fell from 5.6 per cent to 5.0 per cent. From then onwards there was more stability; output in 1937 was practically the same as in 1929, and West Yorkshire's share in the national output rose to 5.3 per cent. The quota system under the Coal Mines Act of 1930 was partly responsible for the change, but by no means wholly. The chief market for West Yorkshire coal is in the districts round the pits; more distant markets, where coal from the relatively old West Yorkshire mines could not compete effectively, were largely lost before 1929. The general level of employment in the districts which made up the local market was better, relatively to the rest of the country, in the late 'thirties than in the late 'twenties, and this probably accounts to some extent for the stabilization of output and the increase in West Yorkshire's share

¹ In 1942 the volume of manufactured woollen exports was 62 per cent of the amount in 1938; by 1943 the proportion had fallen to 39 per cent.

in the national total. Employment was less well maintained. After falling from 64,000 in 1913 to 54,000 in 1929 it fell again to 44,000 in 1937, chiefly as a result of mechanization. The proportion of West Yorkshire coal mechanically cut rose between 1929 and 1937 from 32 to 51 per cent, and the proportion mechanically conveyed below ground from nothing to 30 per cent.

During the first years of the war output was well maintained, and West Yorkshire's share in the national output rose from 5.3 per cent in 1937 to 6.1 per cent in 1941. Employment was maintained in spite of a big increase in mechanization; in 1941 62 per cent of the coal output of West Yorkshire was cut by machine and 49 per cent mechanically conveyed below ground.¹ It is possible that after the war West Yorkshire may continue to provide a higher proportion of the national output than before the war, particularly if the general level of employment in the districts round the mines is well maintained. Total output in that case would be at or above the pre-war level. It is by no means certain whether the same would be true of employment; the mechanization which has occurred since 1937 may by itself result in a significant fall in employment once abnormal wartime conditions disappear, and there is clearly room for still further mechanization in future.

These comments apply to the West Yorkshire field as a whole. It is highly probable that there will in future be the same contrast as before the war between the part of the field east of a line from Leeds to Wakefield and the part to the west. As in South Yorkshire and the Nottingham and Derby field, the trend of mining in West Yorkshire is towards the east; the western pits, the smaller part of the industry, are nearly worked out, and their output and employment will probably decline still further after the war.

The last of the four main established industries of West Yorkshire is engineering. Generally speaking, engineering firms wish to return to their pre-war lines of production, and in most cases they should be able to do so without difficulty. There are some cases of firms which before the war were producing for a declining market, and which have taken the opportunity of the war to turn over to products likely to be in greater demand, or at least to extend their range of products. There are several examples in the Leeds locomotive engineering industry; locomotive engineering firms, here and elsewhere, expect a serious slump in the demand for their main products once immediate post-war needs are satisfied. Another example of the same type is a firm which formerly built steel wagons. During the war it has been making aircraft parts, and it intends to use the experience which it has acquired to carry on with some form of light engineering after the war.

¹ By 1943 these figures were respectively 68 per cent and 59 per cent.

On the other hand, there are signs in some areas of considerable post-war difficulties. A problem emphasized by the report from one main centre is the uncertainty of post-war markets. Several large firms in this area have expanded since 1939, and intend to try to retain at least part of the wartime increase in output when the war is over. It may be that the market for their particular products will be great enough to justify the increase. But they are taking a leap in the dark; it is by no means unlikely that, for lack of information and of a guiding plan, at least some of these firms are aiming too high. While in the long run these firms will have to produce at the level determined by the market, in the short run their attitude may add to the difficulty of securing the smooth adjustment to peace-time conditions which should take place in the first year or so after the war ends. No blame, of course, attaches to the firms themselves; their willingness to take risks and to open up new markets deserves every encouragement. The difficulty is due to the lack of clear guidance from those in a position to give it.

The problem of the Halifax machine-tool industry may prove particularly difficult. Over the country as a whole, the output of machine-tools has been multiplied during the war; the firms established before the war have increased their capacity well beyond normal peace-time needs, and it is necessary, in addition, to reckon with firms which have come into the industry during the war and which may in some cases wish to remain. It is very largely these incoming firms which have undertaken the manufacture of types of machine-tools which will not be needed in peace, and in any case many of the new firms have established positions in other branches of engineering, to which they will wish to go back. But some may prefer to remain, adding to the problem of surplus capacity. Even in 1940 the Halifax machine-tool makers were afraid, as one of them put it, that they were 'digging their own graves' by turning out machine-tools in quantities which might involve a prolonged slump after the war and a permanent problem of surplus capacity; since then the danger has clearly grown.

It is possible that these fears may be exaggerated. There are prospects of a permanent increase in the rate of demand for new equipment from British industry, and as a result of wartime experience British machine-tool firms should be in a position to replace permanently a considerable proportion of former imports; in 1935 the value of retained imports of machine-tools was equivalent to about a quarter of the value of total British production.¹ Unless there is a serious permanent fall in exports, which accounted in 1935

¹ Production is valued at factory and imports counting in freight, so that the value at factory of retained imports of machine-tools would be equivalent to rather less than a quarter of the value of British production.

for about a third of the value of British production, these possibilities should go some way towards preventing a prolonged depression in the British machine-tool industry. But the position evidently needs to be carefully watched.

Engineering firms all over the country expect difficulties after the war, and West Yorkshire is no exception. There will presumably be a big demand for engineering products immediately the war ends. When this demand is satisfied it seems to be reasonable to expect a difficult period of some years before the level of prosperity which was found in many engineering centres shortly before the full onset of the rearmament boom is regained.

On the whole, consideration of the four main industries suggests that trends in them after the war are likely to resemble those experienced before it. Stable or slightly falling employment in wool and coal, and rising employment in clothing, are very much the same conditions as were experienced before 1939. The position of the engineering industries is less certain; they seem, in general, likely to be worse off than before the war for some time to come. If the trends in minor industries are similar to those experienced down to 1939 it appears that West Yorkshire is likely to find itself in future in very much the same position as in the past; with a level of unemployment rather above the national average, and prevented from rising further only by a certain amount of emigration. The distribution of prosperity over the area also seems not unlikely to be much the same as before the war. Leeds, with its large clothing industry and generally varied industrial structure, is unlikely to be depressed. The position of the other large towns depends to some extent on what happens to engineering. The smaller wool towns may very well continue to decline.

This, of course, is on the assumption that no effort is made to utilize the opportunities presented by the war for adding permanently to employment. The number of workers affected by persistent excess unemployment before the war has been estimated at about 25,000, more or less. This is a considerably smaller number than the total of workers employed in new works built during the war or in firms which have migrated into West Yorkshire, not necessarily into new buildings. Reports about the number of immigrant firms which are likely to stay vary; but it is clear that at least a few would be willing to consider it. Very much more important is the question of the future of certain large new factories engaged on general engineering, aircraft assembly, or shell-filling. Not all these factories can usefully be retained either on armament work or on any other form of industrial production after the war. Several, however, are strategically situated from the point of view of possible post-war unemployment, and are suitable for any normal form of industrial production; the

use to which they are put after the war deserves very careful consideration. There is little doubt that most of the new factories will be used in one way or another, if they are at all suitable for normal production. The question is whether they are to be used as a net addition to local industry, or merely to replace obsolete buildings. There is a danger, as one report puts it, of:

‘Considerable wastage of factory space . . . this will consist largely of the older buildings. Only in the most favourable circumstances can complete utilization be envisaged.’

An active policy to ensure satisfactory utilization of new factories would go some way—possibly all the way—towards preventing the reappearance of permanent localized unemployment. The extensive building programme which can reasonably be expected would make a further big contribution. In the summer of 1943 Leeds Corporation alone was considering a programme of 53,000 houses, of which 25,000 were to be built in the first eight years after the war. The Government’s proposal to add 20 per cent to the building labour force, coupled with a reduction in unemployment, should mean in West Yorkshire direct employment for between 5,000 and 10,000 men, with no allowance for indirect employment of men off the site. Given goodwill and reasonable determination, it should not be difficult to prevent the reappearance of permanent localized unemployment in West Yorkshire for a long time after the war—for far enough ahead to make forecasts of what may happen afterwards valueless at this stage. The prevention of persistent excess unemployment would not, of course, solve all West Yorkshire’s problems. There would remain the problem of relatively severe cyclical unemployment, the problem of low earnings, and a smaller issue arising in a few mining districts, the problem of a shortage of work for women. The first of these problems is general, not local, and the two others are relatively less urgent.

SOUTH YORKSHIRE

The South Yorkshire industrial area has four main centres: Sheffield, Rotherham, Barnsley, and Doncaster. It depended before the war principally on iron and steel, centred at Sheffield and Rotherham, heavy engineering at Sheffield and in the N.L.E.R. workshops at Doncaster, and coal mining, which was spread over almost the whole area. There were, in addition, certain smaller industries; the most important were the tool, implement, cutlery, and plate industries, strongly localized at Sheffield. Iron and steel, coal, and heavy engineering were relatively depressed industries during most of the period between the two wars, as a result partly of long-term trends, partly of the dislocation left behind by the war of 1914 to 1918, and partly of the sensitivity of these industries to the trade cycle. South

Yorkshire held its own, or more than held its own, in the branches with which it was most concerned, but nevertheless experienced considerable difficulties.

Unemployment in the four main centres between 1927 and 1937 was decidedly higher than in the leading towns of West Yorkshire. Unemployment at Barnsley was particularly serious, rising to between 45 per cent and 60 per cent at seasonal peaks between 1932 and 1935; it was very much higher, during most of the period, than unemployment in the West Yorkshire mining towns of Castleford or Wakefield. At Barnsley and elsewhere in the coalfield there was a good deal of persistent excess unemployment; in Barnsley itself persistent excess unemployment may have affected between 15 per cent and 20 per cent of the insured population in 1937. Unemployment at Sheffield and Rotherham was also serious, but appears to have been largely cyclical. In the boom of 1929 Sheffield was still recovering from the dislocation which followed the last war, and unemployment was about 5 per cent above the national average. From 1931 to 1933 unemployment at Sheffield was 11 per cent or 12 per cent above the national average. By 1935 it had fallen back to $3\frac{1}{2}$ per cent or 4 per cent above the general average, and in 1937 it fell below it. Unemployment at Rotherham followed a similar course, starting from a lower level in 1927. Doncaster reached, on the whole, about the national level of employment; but even Doncaster experienced unemployment above the national level as often as not between 1929 and 1935. In the whole area persistent excess unemployment in 1937 may have affected something of the order of 25,000 workers, or rather more—around 6 per cent of the insured population. But this should not be taken as an exact estimate.

As might be expected in a heavy industrial area, the proportion of women in industry was very much lower before the war in South Yorkshire than in the woollen and clothing area. Sheffield in 1931 had 34 women gainfully occupied for every hundred men, against 56 for Leeds and over 60 for Bradford; Rotherham in 1939 had 10 insured women workers¹ to every hundred men, against the national average of 39, and figures well above the national average in most of the West Yorkshire towns. The level of earnings in the South Yorkshire industries was higher in peace-time than in West Yorkshire; but, allowing for unemployment and for the low proportion of women working in industry, average family incomes in South Yorkshire shortly before the war may have been below the West Yorkshire level.

In view of the level of unemployment and of incomes, it is not surprising that the population of South Yorkshire failed to increase substantially in the years immediately before the war. In 1931 the

¹ Aged 14-64.

TABLE 63—SHEFFIELD

Industry	Estimated No. of insured persons aged 16-64		Increase (+) or Decrease (-) 1923-37		No. in each industry as % of total insured persons at July 1937	
	July 1923	July 1937	No.	% of July 1923	Sheffield	Great Britain
Iron and Steel (including Pig-iron Manufacture) .	29,440	33,830	+ 4,390	+ 15	18.7	1.5
Metal Manufacture (other than Iron and Steel) .	2,110	3,390	+ 1,280	+ 61	1.9	1.0
Hand-tools, Cutlery, etc.	18,520	23,350	+ 4,830	+ 26	12.9	0.3
Watches, Clocks, Plate, etc.	7,710	8,310	+ 600	+ 8	4.6	0.3
Miscellaneous Metal Goods Industries .	1,840	4,950	+ 3,110	+169	2.7	2.0
General Engineering, etc.	20,510	15,040	- 5,470	- 27	8.8	4.6
Motor Vehicles, Cycles, and Aircraft .	520	1,260	+ 740	+142	0.7	2.6
Electrical Engineering .	180	1,140	+ 960	+533	0.6	0.9
Coal Mining .	9,260	6,780	+ 2,480	- 27	3.7	6.6
Printing, Publishing, and Bookbinding .	1,800	2,350	+ 550	+ 31	1.3	2.1
Furniture-making, Upholstering, etc.	1,050	2,230	+ 1,180	+112	1.2	1.1
Chemicals (including Explosives, Oil, Paint, Soap, Ink, etc.) .	870	1,430	+ 560	+ 64	0.8	1.7
Brick, Tile, Pipe, etc.	600	1,350	+ 750	+125	0.7	0.8
Shirts, Collars, Under-clothing, etc.	450	1,040	+ 590	+131	0.6	0.6
Cocoa, Chocolate, etc.	700	1,510	+ 810	+116	0.8	0.6
Bread, Biscuits, Cakes, etc.	1,030	1,360	+ 330	+ 32	0.8	1.3
Drink Industries .	1,180	1,150	- 30	- 2	0.6	0.9
Building .	6,280	10,210	+ 3,930	+ 63	5.7	7.7
Public Works Contracting .	850	2,760	+ 1,910	+225	1.5	2.2
Distributive Trades .	12,300	22,570	+10,270	+ 83	12.5	15.2
Gas, Water, and Electricity Supply .	2,480	3,060	+ 580	+ 23	1.7	1.6
Tramway and Omnibus Service .	2,210	2,930	+ 720	+ 33	1.6	1.5
Road Transport (other than Tramway and Omnibus Service) .	1,840	2,580	+ 740	+ 40	1.4	1.5
Hotel, Boarding-House, etc., Service .	1,970	2,010	+ 40	+ 2	1.1	3.3
Laundries, Job Dyeing, and Dry Cleaning .	580	1,200	+ 620	+107	0.7	1.3
All other Industries and Services .	19,410	23,310	+ 3,900	+ 20	12.9	36.8
Total, all Industries and Services .	145,690	181,100	+35,410	+ 24	100.0	100.0

Based on the evidence of the Ministry of Labour to the Barlow Commission.

population of the areas centred round Sheffield, Rotherham, Barnsley, and Doncaster was about 1,138,000—more or less, according to where the boundaries are drawn. In 1938 the population of the corresponding area was about 1,151,000; the increase over seven years was 1.2 per cent, as compared with an increase of 3.2 per cent in the country as a whole. In Barnsley and several of the smaller urban districts the population actually fell.

The normal products of the chief South Yorkshire industries—or products very closely allied to them—are urgently needed in time of war, and the war could scarcely be expected to cause a revolutionary change in the relative importance of local industries. The cutlery trade has been concentrated, and a large part of it closed down; the other main industries of the area are on war work, making, for the most part, products similar to those which they made in peace. A few firms have moved departments out of Sheffield, there has been some dispersal within the city, and both in Sheffield and elsewhere a number of new works have been built; several steel and engineering firms have built extensions to their existing works. It is not thought locally that these wartime developments will make a great deal of difference to the industrial picture after the war. Concentration will disappear—in the cutlery trade, with its highly individualistic methods and its jealously guarded trade marks, the tendency to break away from the units formed during the war will probably be irresistible. Dispersal is likely in most cases to come to an end. There appears to be the same probability as in West Yorkshire that new factories and extensions will be used, where they are suitable, to replace older buildings and not as a net addition to local industry. Some factories which lie well away from the established industrial areas may remain empty unless strong measures are used to keep them occupied. Housing—or rather the lack of it—has caused a good deal of difficulty with some of these factories during the war, and is likely to cause more after it. If suitable measures could be applied, some of these factories could undoubtedly be used in a way which would both add to local employment and help considerably to relieve the present congestion and general bad planning of some of the South Yorkshire towns. Reference is made below to a Royal Ordnance Factory near Rotherham of which use might be made in this way. There is another and larger Royal Ordnance Factory in the north of Nottinghamshire which might be used similarly: but this case has not been considered in detail.

The future of the area evidently depends mainly on the future of the chief pre-war industries: coal, iron and steel, engineering, tools, cutlery, and plate. The mining industry in South Yorkshire should have reasonably good prospects. It is still at an earlier stage of development than the West Yorkshire field; before the last war, and

between 1913 and 1929, its output was increasing steadily, and the restrictive effect of the Coal Mines Act of 1930 was very largely responsible for the failure of output to increase still further. Loss of exports, in which the South Yorkshire field took a large share, was also partly responsible; on a rough estimate, 15 per cent of the South Yorkshire output was exported just before the war. The share of the South Yorkshire field in the whole national output increased between 1929 and 1937, in spite of adverse factors, from 13 per cent to 13·5 per cent; but output fell over the same period by about a million tons, from 33,500,000 tons to 32,400,000. Employment increased between 1913 and 1929, in spite of increasing mechanization. Between 1929 and 1937 the proportion of South Yorkshire coal cut mechanically rose from 13 per cent to 51 per cent, and the proportion mechanically conveyed below ground from nothing to 59 per cent; with stagnant output the inevitable result was a fall in employment, from 119,000 in 1929 to 100,000 in 1937. During the first years of the war South Yorkshire's share in the national output continued to rise, from 13·5 per cent in 1937 to 14·7 per cent in 1941. Mechanization also increased; by 1943 the proportion of the local output cut by machine had reached 69 per cent, and the proportion mechanically conveyed below ground 78 per cent. There is still room for further mechanization, and it seems reasonable to suppose that employment after the war will not recover permanently to the pre-war level unless output is substantially increased. It is very likely that, if the production quotas imposed by the Act of 1930 are not restored, South Yorkshire will retain the share in the national output which it has obtained during the war, and in that case output in South Yorkshire might well exceed the pre-war level; but whether it is likely to exceed the pre-war level sufficiently to compensate for increased efficiency, once the dislocation due to the war has disappeared, is by no means certain.

There was a strong tendency before the war for mining in South Yorkshire, as well as in West Yorkshire, to move towards the east. A map of the South Yorkshire field in the years immediately before the war, compared with a map from the end of the last century, shows how the larger modern pits have developed north and east of Doncaster and in the triangle between Barnsley, Doncaster, and Rotherham; the older pits to the west have tended to stagnate, and more recently even the western part of the more highly developed area has tended to lose ground. There is every reason to expect that this shift within the field will go on.

The iron, steel, and engineering industries are in a less fortunate position, except for the L.N.E.R. works at Doncaster. Sheffield and Rotherham specialize in high quality steel, which before the war found a steadily expanding market; between 1913 and 1937 the output of steel at Sheffield rose by 98 per cent, from 879,000 tons to

1,739,000, while the national output rose 69½ per cent. The growing efficiency of the steel industry meant that employment did not rise correspondingly. The number of insured workers in the Sheffield steel industry increased by no more than 15 per cent between 1923 and 1937; over the same period the number insured in the country as a whole fell 10·7 per cent, though the number actually in employment rose 1·6 per cent. It was generally agreed before the war that Sheffield's position as a steel manufacturing centre was unlikely to be disturbed. There was no local supply of ore, or possibility of importing cheaply from overseas; on the other hand, the local engineering industries supplied large quantities of scrap, and by using an average furnace charge of 65 per cent scrap to 35 per cent of pig iron raw Sheffield steel manufacturers were able to avoid a serious raw material difficulty. The local supply of skilled labour, the established markets, and the high quality of Sheffield products, which made the high cost of transport of raw materials to a centre in the middle of England relatively unimportant, were all solid reasons for assuming that Sheffield's position was secure.

Most of these reasons still apply; but they have been seriously affected by the war. It has been pointed out earlier that, while there has been a slight fall during the war in steel output as a whole, there has been a very substantial increase in the output of the special steels with which Sheffield is particularly concerned. Some of this increased output has come from Sheffield; but a good deal has come from new works in areas such as Cumberland or South Wales. Conditions in these areas after the war are likely to be such as to ensure that every effort will be made to prevent the new works from being closed down; they are in any case efficient units, and if it became necessary to close down redundant plant there would be a great deal of justification for closing older and less efficient units in other districts. It is not possible to forecast either market conditions or Sheffield's competitive position with any accuracy; but it is clear that there is a risk of over-supply of the types of steel in which Sheffield specializes. Steel firms which were interviewed in the Sheffield area appeared to believe that their competitive position in future should be reasonably strong. At the same time, it cannot be said that there is any obvious ground for optimism.

It has not been possible to make any detailed inquiries into the future of the Sheffield heavy engineering industries. In view of the expansion of engineering capacity here and elsewhere during the war it is impossible to be optimistic; at the same time, without a detailed investigation of the prospects for particular firms it is impossible to forecast future developments with any accuracy. These firms were badly hit after the last war; between 1923 and 1937 they lost over a quarter of their insured workers.

In the case of the minor metal trades there appears to be no reason for pessimism. Employment in the tool and cutlery industries increased considerably between 1923 and 1937, though principally before 1929; the number of insured workers in the industry actually fell slightly between 1930 and 1937. Over the whole fourteen years the number of insured workers in the country as a whole increased by $16\frac{1}{2}$ per cent, and the number in employment by $28\frac{1}{2}$ per cent. In the same period the number of insured workers at Sheffield, which provides about three-fifths of the employment in these trades, increased by 26 per cent; Sheffield was clearly maintaining its position as well as recording a substantial rate of absolute increase. There will presumably be a big replacement demand for cutlery and certain tools immediately after the war; looking farther ahead, there is no obvious reason why the pre-war level of employment should not at least be maintained. It may be less easy to keep up the pre-war level in the plate and jewellery group. Employment in this group in the country as a whole, as well as in Sheffield, tended to stagnate before the war. The Census of Production shows that between 1930 and 1935 employment in this group increased $\frac{3}{4}$ per cent in Great Britain and fell $1\frac{1}{2}$ per cent in the West Riding, and the Ministry of Labour's figures show that in Great Britain as a whole employment in the watch, clock, plate, and jewellery groups fell 4 per cent between 1929 and 1937. It seems probable that changes on a similar scale may be expected after the war. This group of trades may gain or lose; it is unlikely to move very rapidly in either direction.

There are a number of cases in which the war has provided an opportunity either for reviving old and decayed minor metal trades or for the introduction of new industries. These cases may be of great importance for the future; examples are mentioned below in the account of a special inquiry made at Rotherham.

The general impression left by consideration of the leading South Yorkshire industries and of wartime developments is that there is a risk of serious depression in this area once the immediate post-war demand for steel and other local products is satisfied. Doncaster, with its stable nucleus of railway work and its position in the most progressive and prosperous part of the coalfield, may not be particularly depressed. Sheffield and Rotherham, which are dependent on the metal industries and (in the case of Rotherham) coal, may find themselves with a heavy burden of persistent excess unemployment as well as of cyclical unemployment. The purely mining area may or may not have as much employment as before the war; at the best, it can scarcely expect a much higher level of employment than in the relatively good years immediately before the war, when persistent excess unemployment in the mining area stood at a high level.

Taking the area as a whole, with every allowance for the progressiveness of some of the minor metal trades and of some other Sheffield industries for which pre-war statistics are shown, there is a risk that the figure of 25,000 or so workers affected by persistent excess unemployment in South Yorkshire before the war may be greatly exceeded afterwards.

It can, of course, be assumed that there will in any case be certain developments after the war to offset this danger. One offset is the national building programme; the effect of the Government's proposals to increase the size of the building industry would be to provide direct employment on the site for some 3,000 men in Sheffield alone. Another offset is the possibility of using war factories as a basis for new developments, and the possibility to which reference has just been made of reviving certain decaying trades. To discover the practical possibilities in both these directions a special inquiry was made at Rotherham at the end of 1942 and the beginning of 1943.

Rotherham depended down to 1939 on steel and coal—31 per cent of the workers insured in 1939 at the Rotherham and Maltby exchanges were coal miners and 29 per cent steel workers. There was considerable unemployment; the chief local firms were progressive and well-established, but were unable to expand fast enough to provide for the whole working population. Efforts were made to bring in new industries, but without much success; there were few good sites left in the town, there were few women with industrial experience, and the general dreariness of the town appears to have discouraged a number of firms which might have come in. The war has made possible a clean break with these conditions. A new Royal Ordnance Factory has been built East of Rotherham, on the edge of the Trent plain. The site is capable of being developed as a new town, related either to Rotherham or to Sheffield; it is incidentally on the side of Rotherham towards which coal mining is tending to move. The new works is engaged on a type of production new to the district, of a kind which it would be well worth while to preserve. The works at present employs principally women, and has been the chief cause of the substantial increase during the war in the proportion of women to all insured workers in the Rotherham area. It may not be possible to retain this works as a unit; if not, it might very well become the basis for a light industrial estate.

It also emerged from the inquiry that it should be possible to stimulate some old-established industries. The most important of these is the stove and grate trade, for which Rotherham was once famous. This industry has decayed as a result of the substitution of electric or gas stoves for the older kitchen ranges; no adequate effort has been made to meet new types of demand. The very big demand

for household equipment of this type which is likely to arise immediately after the war for replacement, and later on as a result of the building programme, would provide an admirable opportunity for reviving this industry on new lines.

THE WEST RIDING—CONCLUSIONS

In the absence of special measures to promote new industries and encourage those already established, the West Riding as a whole seems likely, once the immediate post-war demand for its products is satisfied, to find itself very much where it was in the middle and late 'thirties. It may be slightly worse off; relatively to the rest of the country, it may well be in the same position as towards the end of the first ten years after the last war, when the levels of unemployment and of emigration in the West Riding were distinctly higher in relation to other parts of Great Britain than they were after the slump of 1931. The West Riding is likely to remain particularly sensitive to the trade cycle. There is every reason to expect, in addition, a good deal of persistent excess unemployment, particularly in the smaller woollen towns, the eastern part of the West Yorkshire coalfield, and certain other parts of the West and South Yorkshire fields in which employment seems unlikely to grow sufficiently to prevent the excess unemployment which existed before the war from reappearing. There may also be a good deal of persistent excess unemployment in the steel and some of the engineering centres. At a minimum, the number of workers affected in the West Riding as a whole might be 60,000—10 per cent to 15 per cent more than in 1937; 60,000 unemployed would be equivalent to 5 per cent of the number of insured workers in the West Riding in 1938.

Persistent excess unemployment on this scale, like the persistent excess unemployment which existed before the war, would present a very much less difficult problem than was found before the war in areas such as South Wales or the North-east Coast. In West Yorkshire it should not be difficult to stimulate existing industries, utilize new war factories, and develop a building programme in such a way as to prevent persistent excess unemployment from reappearing. The problem in South Yorkshire is both more severe and more difficult to deal with; but even there the case of Rotherham illustrates the possibility of a solution.

The solution of the problems of cyclical and persistent excess unemployment would still leave a number of secondary problems, including particularly the problem of low earnings in the woollen towns and of a shortage of work for women in some of the mining and steel districts of both West and South Yorkshire. These problems must be borne in mind, though they are clearly less urgent than the problem of total unemployment. A good beginning has been made

during the war with the problems of women's employment, and it is important that the ground gained should not be lost.

The economic problems of the West Riding are closely linked to the town-planning problem involved in the shift of economic activity and of population within the area. In West Yorkshire there is the tendency for activity to concentrate in some of the bigger towns; and in West and South Yorkshire alike there is the tendency for mining to move eastwards as the older pits to the west become exhausted. Both these movements need to be carefully controlled. It is particularly important that the tendency of mining to shift eastwards should be closely co-ordinated with the movement of industry. As the case of Rotherham shows, there are good reasons for encouraging the West Riding's manufacturing industry to develop towards Doncaster and the Trent plain, even apart from the shift of mining. The movement of mining makes it even more desirable that manufacturing as well as mining should move eastwards, in order to maintain some balance of occupations in the mining areas—a balance which, at the moment, is conspicuously absent in several of them. It is important that there should be a regional plan covering movements both of mining and of industry inside West and South Yorkshire respectively, and it is desirable that there should also be a provincial plan covering both areas and co-ordinating the eastward movement from both alike. Doncaster, on the Trent plain, with first-class communications, considerable industrial and mining development, and a strong tendency to acquire more, would serve as the natural focus of a plan designed to secure a balanced development in the areas now being opened up and at the same time to relieve both the employment and the housing and planning difficulties of the older towns.

Nottinghamshire and Derbyshire, which are considered elsewhere, have problems in many ways similar to those of West and South Yorkshire. They have the same eastward shift of mining, and the same danger that the shift may result in the development of unbalanced towns dependent almost exclusively on coal. No rigid line can be drawn between the Nottinghamshire and Derbyshire coalfields and the Yorkshire field, and it is desirable that a joint plan should cover developments in both areas alike. It is suggested in Chapter X that wartime developments in the north of Nottinghamshire might well be used in connexion with an eastward movement of industry and population out of Sheffield and Rotherham.

CHAPTER IX

THE HUMBER PORTS¹

THERE are certain features common to the Humber ports—Hull, Grimsby (including Immingham), Goole—and Selby which justify grouping them in a separate chapter. All of them depend for their prosperity on the continuing value of their situation for the transshipment of goods; in each of them are found some of the industries commonly associated with a port situation; and all, despite their transport facilities, are in some sense isolated from other industrial areas, having an agricultural rather than an industrial hinterland. In contrast with these points of similarity, it is obvious that the towns concerned are dissimilar in other important respects. All are dwarfed by Hull, with a peace-time population of nearly 318,000 to Grimsby's 92,000, Goole's 20,000 and Selby's 10,000. Moreover, Hull presents at least a superficial appearance of diversity of economic activities as against Grimsby's very great dependence on fishing and Goole's on transit trade.

TABLE 64
POPULATION OF THE HUMBER PORTS

	Population Mid-1938	Natural increase		Migration		Net gain or loss	
		1921-31	1931-8	1921-31	1931-8	1921-31	1931-8
Hull	318,700	+ 8.7	+ 4.6	- 0.8	- 3.0	+ 7.9	+ 1.6
Grimsby	92,320	+ 8.7	+ 4.4	- 1.0	- 4.5	+ 7.7	- 0.1
Goole	19,560	+ 10.1	+ 3.9	- 4.2	- 7.3	+ 5.9	- 3.4
Selby	10,030	+ 7.3	+ 3.3	- 6.5	- 3.6	+ 0.8	- 0.3

1921-31 figures taken from 1931 Census.

1931-8 figures: Net gain or loss calculated from Census figures at both dates.

Natural Increase—Births minus deaths from 1931-8 as % of 1931 figure for population.

Migration—Net gain or loss minus Natural Increase.

HULL

Hull's population showed, apart from one or two set-backs, a steady rise from the early 'twenties up to 1936. From then on a decline in numbers set in, and by 1939 the population was lower than in 1932. This recent tendency towards decline was not the

¹ The first draft of this section was prepared by Mr. R. K. Kelsall of University College, Hull, the Nuffield Survey's Local Investigator for Hull and the East Riding.

result of an excess of deaths over births. Actually the Hull birth-rate, though showing the national tendency towards a long period decline, has always been substantially above that for England and Wales as a whole; as in the case of Grimsby, the rate of natural increase at Hull has, even in recent years, been more than 3 per thousand higher than the national average. The fall in the population has been due to the excess of migration outwards over migration inwards. Except for the period of the late 'twenties and early 'thirties, when, in addition to the effects of general depression, boundary changes make the net migration position uncertain there has always tended to be a substantial net movement outwards from Hull. More people have left Hull for the more prosperous areas to the West and South-west than have come into the town from the surrounding countryside.

TABLE 65
TRADE OF THE HUMBER PORTS¹

Source: Annual Statement of Trade of the United Kingdom

<i>Total Value (£000's). Annual Average</i>	Hull	Grimsby	Goole
Imports 1910-13	45,453	14,199	8,617
1935-37	57,885	13,217	6,155
Exports, U.K. Produce . . . 1910-13	26,411	20,432	10,550
1935-37	25,893	5,083	8,180
Exports, Imported Goods . . 1910-13	5,545	146	81
1935-37	1,134	57	85
<i>Total Value as % of Total Value of Trade of U.K. Annual Average</i>			
Imports 1910-13	6.3	2.0	1.2
1935-37	6.6	1.5	0.7
Exports, U.K. Produce . . . 1910-13	5.6	4.3	2.2
1935-37	5.6	1.1	1.8
Exports, Imported Goods . . 1910-13	5.2	0.1	0.1
1935-37	1.8	0.1	0.1
<i>Total Value as % of Total Value of Trade of Hull, Grimsby, and Goole. Annual Average</i>			
Imports 1910-13	66.6	20.8	12.6
1935-37	74.9	17.1	8.0
Exports, U.K. Produce . . . 1910-13	46.0	35.6	18.4
1935-37	66.1	13.0	20.9
Exports, Imported Goods . . 1910-13	96.1	2.5	1.4
1935-37	88.8	4.5	6.7

There is reason to believe that those workers who left were more skilled than the average in the town. Local Employment Exchange officials emphasize that the bulk of those workers who left Hull through the medium of the Exchanges were skilled men, many of them attached to the engineering trades; and that these workers

¹ 1910-13, i.e. 1910, 1911, 1912, and 1913.
1935-37, i.e. 1935, 1936 and 1937

showed an even greater reluctance to leave their home town than did their counterparts elsewhere. Hull, in fact, in addition to possessing a large reserve of unskilled labour, also possessed a reserve of skilled labour which only left the town under the strongest pressure of economic circumstances.

Hull's advantages as a port are well known and can be summarized briefly. The largest cargo vessels can be accommodated; there are adequate facilities for repairs and bunkering, and there is direct access to a network of inland waterways. Overside loading and unloading has always been a characteristic feature of the port, and the use of the inland waterway routes has made possible extremely cheap handling and transport of bulky cargoes, particularly in view of the fact that river and canal craft have an ancient exemption from tonnage dues. This last feature means that where goods are taken direct from or to the ship's side in sloop or lighter, no charge except handling is incurred.

Before the last war nearly 60 per cent of the total value of Hull's trade consisted of imports, and among these imports the items individually most important in value terms were wheat, oil seeds and wool, which between them represented one-third of the total. Amongst exports woollen and worsted yarns and manufactures formed the most important group, with cotton yarns and manufactures second and coal third. In the relative value of import and export trade Hull differed from the two other Humber ports, in each of which exports exceeded imports in value at that time. The relative position of exports and imports in Hull's trade has changed little since then; the relative importance of imports increased slightly down to the war, and in 1935-7 imports formed nearly 70 per cent of the total value of trade. It was not until 1928 that the amount of Hull's overseas trade (making allowance for changes in wholesale prices) reached the 1913 level again. Imports had done so in 1924; exports have never done so up to the present time. Hull's total trade showed the normal depression and subsequent recovery following 1929, and its general trend since that date has been round about the 1913 level. Putting the matter shortly, it took 10 years after the last war for trade to regain its pre-war dimensions; and in the subsequent 10 years it was only just possible, allowing for considerable cyclical fluctuations, to maintain the position reached.

During the same period, however, Hull's position relative to the other Humber ports showed a marked improvement; in the years from 1935 to 1937 Hull accounted for 72 per cent of the combined trade of Hull, Grimsby, and Goole, as against only 59 per cent in 1910 to 1913. Hull has in fact in one sense maintained its position by acquiring an increasing proportion of a decreasing total Humber trade.

TABLE 66
TRADE OF HULL, 1935-7

	Average Value 1935-7 (£000's)	% of all imports of Hull
<i>Imports</i>	57,885	100
<i>Food, Drink, Tobacco</i>	21,742	37.6
Grain and Flour	9,449	16.3
Bacon	2,805	4.8
Butter	2,861	4.9
<i>Raw Materials</i>	23,510	40.6
Wool waste, Rags	8,754	15.1
Oilseeds	4,898	8.5
Timber	4,925	8.5
<i>Articles Wholly or Mainly Manufactured</i>	12,602	21.8
Petrol	2,836	4.9
Paper, Cardboard, etc.	1,805	3.1
Iron, Steel and Manufactures thereof	1,672	2.9
Machinery and Parts	1,002	1.7

	Average Value 1935-7 (£000's)	% of all exports of Hull
<i>Exports (U.K. Produce and Manufactures)</i>	25,893	100
<i>Food, Drink, Tobacco</i>	1,109	4.3
<i>Raw Materials, etc.</i>	4,751	18.3
Wool, Raw and Waste, and Woollen Rags	2,531	9.8
Coal	770	3.0
Oils and Seeds	939	3.6
<i>Articles Wholly or Mainly Manufactured</i>	19,881	76.8
Cotton Yarns and Manufactures	6,764	26.1
Woollen and Worsted Yarns and Manufactures	5,031	19.4
Machinery and Parts	1,961	7.6
Iron, Steel and Manufactures thereof	906	3.5

An analysis of Hull trade immediately before the war shows that raw materials formed the most valuable class of import, with food-stuffs not very far behind and manufactures a poor third. Within the raw material class wool, wool waste and woollen rags were the most important group in terms of value, seeds and nuts coming second and timber third. Among them these three groups formed about 80 per cent of the value of all raw material imports into Hull. The rise of wool imports to a position of greater importance than those of oil seeds resulted from a very marked increase since the last war in the

import of the former. Within the food class by far the most important group in quantity terms was grain and flour, with sugar and molasses second. Grain and flour also headed the list in terms of value, but butter came second and bacon third. Within the class of manufactures the most important import in value terms was petrol, followed by paper, iron and steel and their manufactures and machinery and parts, in that order. The value of petrol imports into Hull in recent years has been roughly three or four times as great as that of petrol imports into Grimsby.

Turning to exports, the class of manufactures is in value terms more than four times as important as the class of raw materials. In the former class cotton yarns and manufactures head the list with woollen and worsted yarns and manufactures second and machinery and parts third; before the Great War exports of woollen products from Hull were both relatively and absolutely of much greater importance than they have been in recent years. Hull's cotton product exports are normally five or six times as great as Goole's and twelve times as great as Grimsby's. Woollen product exports from Hull have shown a very great decline in importance since 1920, though before the present war they were two or three times as great as those from Goole and sixteen times as great as those from Grimsby. Amongst raw materials, raw wool, waste, and rags form the most important export in value terms, coal coming second. The fall of coal in both absolute and relative importance amongst Hull exports has been one of the most striking developments since the last war; whereas in 1913 Hull exported a much greater quantity of coal than either Grimsby or Goole, in recent years Hull's coal exports have been less than half those of Grimsby and only about 10 per cent more than those of Goole. Hull's coal exports have fallen while exports at the other two ports have been comparatively stable.

Apart from transit trade, the most important activity carried on in Hull before the war (except for standard services such as the distributive trades) was fishing. Although in Table 67 the proportion of insured workers¹ in Hull attached to the fishing industry is only given as a little over 4 per cent, this figure takes no account of those engaged in handling and treating the fish and in numerous ancillary activities; it is estimated that perhaps a sixth of the population of Hull may depend directly or indirectly on fishing in normal times.

As Table 68 suggests, employment in Hull manufacturing industry on the whole expanded between 1923 and 1937, with the conspicuous exception of shipbuilding; the largest shipbuilding yard in Hull was closed and dismantled by National Shipbuilders' Security, Ltd., during the depression of the 'thirties. Even apart from shipbuilding and from direct ancillaries of the fishing industry, the great majority

¹ Aged 14-64.

TABLE 67.—INSURED PERSONS, 14-64, EXCLUDING THOSE ATTACHED TO AGRICULTURE, WHOSE UNEMPLOYMENT BOOKS WERE EXCHANGED DURING JULY 1939 AT THE EMPLOYMENT EXCHANGES AT HULL, GRIMSBY, GOOLE, AND SELBY AND IN THE UNITED KINGDOM AS A WHOLE

Industry	Hull		Grimsby		Goole		Selby		U.K.
	Number	% of Hull workers	Number ¹	% of Grimsby workers	Number	% of Goole workers	Number	% of Selby workers	% of U.K. workers
<i>Drink, and Tobacco</i>	6,610	6.0	4,810	12.1	150	2.5	450	9.9	4.2
<i>in Milling</i>	1,620	1.5			150	2.5	150	3.3	0.
<i>ba, Chocolate, and Sugar confectionery</i>	1,350	1.2							0.
<i>as and Clothing</i>	2,100	1.9	1,060	2.7			90	2.0	12.5
<i>on Manuf'g (Weaving, etc.)</i>	1,180	1.1	2,100	5.3	620	10.2	480	10.6	1.
<i>and Engineering</i>	12,110	11.1							18.2
<i>building, Repairing and marine Engineering</i>	2,940	2.7	2,040	5.2	620	10.2	420	9.3	1.
<i>arine Engineering, etc.</i>	2,170	2.0					60	1.3	4.
<i>ting and Ventilating Appliances</i>	1,920	1.8							0.
<i>tratus</i>	3,280	3.0							2.
<i>al Ind. not sep. specified</i>			5,000	12.6					
<i>g (excluding handling and eating)</i>	4,550	4.2							0.2
<i>g and Quarrying</i>	300	0.3							6.4
<i>ort and Communication</i>	16,270	15.0	5,180	13.1	2,070	34.1	180	4.0	6.0
<i>way Service</i>	1,700	1.6							1.
<i>ing Service</i>	2,640	2.4					120	2.6	0.4
<i>r, Canal, Dock, and Har-our Service</i>	9,280	8.6							1.
<i>nice Trades</i>	25,360	23.3	8,210	21.0	970	16.0	630	13.9	15.3
<i>er Industries and Services</i>	41,470	38.2	13,240	33.2	2,260	37.2	2,710	59.6	37.2
<i>ding, Public Works Con-acting, etc.</i>									
<i>idworking Industries</i>	7,750	7.1	3,630	9.2	450	7.4	500	11.0	9.4
<i>neals</i>	3,290	3.0							1.4
<i>Glue, Soap, Ink, Matches, etc.</i>	1,410	1.3			390	6.4	60	1.3	0.4
<i>t, Varnish, Red Lead, etc.</i>	6,130	5.7					1,110	24.4	0.4
	1,980	1.8							0.3
	108,470	100.0	39,600	100.0	6,070	100.0	4,540	100.0	100.0

TABLE 68

HULL

Estimated number of insured workers, aged 16-64, July 1923 and July 1937

Industry	Estimated No. of insured		Increase (+) or Decrease (-) 1923-37		No. in each industry as % of all insured July 1937	
	July 1923	July 1937	No.	% of July 1923	Hull	Great Britain
Fishing	3,350	5,360	+ 2,010	+ 60	5.4	0.3
Dock, Harbour, Canal, etc., Service	9,260	8,540	- 720	- 8	8.7	1.2
Shipbuilding, etc.	4,080	2,080	- 2,000	- 49	2.1	1.2
Marine and Constructional Engineering	790	1,130	+ 340	+ 43	1.1	0.7
General Engineering	1,770	1,980	+ 210	+ 12	2.0	4.6
Motors, Cycles, Aircraft	430	1,030	+ 600	+ 139	1.0	2.6
Miscellaneous Metal Goods	1,920	2,440	+ 520	+ 27	2.5	2.0
Grain Milling	990	1,680	+ 690	+ 70	1.7	0.25
Miscellaneous Food Industries	1,860	1,690	- 170	- 9	1.7	1.0
Cocoa, Chocolate, etc.	1,220	1,010	- 210	- 17	1.0	0.6
Chemicals, Oils, etc.	10,110	9,010	- 1,100	- 11	9.1	1.7
Printing, Publishing, etc.	1,410	2,010	+ 600	+ 43	2.0	2.1
Building	3,360	6,600	+ 3,240	+ 96	6.7	7.7
Distribution	11,140	22,860	+ 11,720	+ 105	23.2	15.2
Hotels, etc.	1,000	1,950	+ 950	+ 95	2.0	3.3
Gas, Water, Electricity	980	1,600	+ 620	+ 63	1.6	1.6
Tram and Bus Service	950	1,060	+ 110	+ 12	1.1	1.5
Other Road Transport	850	1,360	+ 510	+ 60	1.4	1.5
Other Industries and Services	26,440	25,360	- 1,080	- 4	25.7	50.9
Total, all Industries and Services	81,910	98,750	+ 16,840	+ 21	100.0	100.0

From the evidence of the Ministry of Labour to the Barlow Commission.

of Hull manufacturing industries are connected in one way or another with the port. There is a large import of oil-seeds, and the group 'chemicals, oils, etc.', the largest group of manufacturing industries in the table, is made up principally of firms engaged in seed-crushing and a wide range of secondary and related activities, including soap, margarine, and cattle-cake manufacturing. There is a large paint industry, also included in the chemicals group, and linked to the port both by its consumption of the oils produced in the seed-crushing industry and by its substantial production for export, and there is a large production of polishes based on the same type of raw material.

There is also an important chemical industry (in the more obvious sense of the word) based to a great extent on imported molasses. Saw-milling and timber manufacturing and the food industries (particularly, of course, grain-milling) are other groups directly connected with the port. The group 'miscellaneous metal goods' in Table 68 consists almost entirely of firms making metal boxes and other containers, for use largely in local industries linked to the port—paint, oils, polishes, and so on. The general engineering group was also in peace-time largely ancillary to such local industries as ship-building and seed-crushing; the firms making seed-crushing machinery had in addition an important export trade. The trade of Hull before the war was concerned primarily with transit traffic to and from other industrial areas; but Hull industries did undoubtedly provide a very useful nucleus for the port's activities.

It is probably true that Hull is even more dependent on activities connected with its port than (for example) Merseyside, with which its economic structure may be compared. At the same time, there are certain industries whose connexion with the port is limited. Two of these may be of particular importance for future developments because of their connexion with the building trade. Ideal Boiler and Radiators, Ltd., founded before the last war, has been consistently prosperous and should have excellent prospects. Tarran Industries, Ltd., the largest Hull building and contracting firm, has begun in recent years to develop a line in prefabricated building units which seems to have considerable possibilities of development. Even this firm has a certain link with the port; since one of the port industries provides the chief raw materials of the Tarran house.

The war has affected Hull very adversely, and has offered no compensating advantages. It is no secret that the town has been heavily bombed; that fishing has been crippled by the requisitioning of practically the entire trawling fleet; and that there has been a substantial evacuation both of people and industrial activity. Of these developments the most serious from the point of view of the town's future prospects is almost certainly the requisitioning of the trawlers. There is a clear danger that Hull may lose in post-war competition with ports which have been allowed to retain at least a skeleton fleet; and although fishing is relatively less important to Hull's prosperity than to Grimsby's, the effects of any serious decline in the industry would inevitably be far-reaching.

GRIMSBY

From the early 1920's to 1935 the population of this borough increased almost every year, and at a rate exceeding that of the other Humber ports. Between 1935 and the outbreak of war, however, the population of the town decreased; by 1939 it had fallen to

slightly below the 1931 level. This failure to maintain numbers was not due to 'natural' factors. The birth-rate in Grimsby, though following the national trend downwards, remained throughout something like 2 per thousand above the birth-rate for England and Wales; the rate of natural increase at Grimsby was indeed more than 3 per thousand above that for England and Wales, and had shown a tendency to stabilize in the last few years of peace after the substantial fall of the preceding decade. The post-1935 fall in numbers was due to a net outward movement corresponding to that found in the other Humber ports. In the case of Grimsby this outward movement was rather of the nature of a new development; for in the later 'twenties Grimsby had, on the whole, experienced a net gain in numbers from migration. It does not seem to have been felt as strongly in Grimsby as in Goole that this outward movement was either a symptom or a cause of a decline in the town's fortunes.

The docks at Grimsby itself are mainly devoted to the needs of the fishing industry and the handling of general cargoes, though there are also repair facilities. Immingham (which for the purposes of this chapter is treated as part of Grimsby) specializes in the handling of bulk cargoes such as grain, timber, iron-ore, and coal. As in the case of Hull, the docks at Grimsby and Immingham are owned by the L.N.E.R. In addition to railway facilities they have access to the Trent and the Ouse and connected inland waterways.

Before the last war 59 per cent of the total value of Grimsby's trade consisted of exports. Amongst these exports the items of greatest individual importance were cotton yarns and manufactures, coal, and woollen and worsted yarns and manufactures. Amongst imports butter held a predominant place, providing not far short of one-fifth of the total value. Between 1910-13 and 1935-7 there was a fundamental change in the relative importance of imports and exports in Grimsby's trade; imports came to predominate, and in 1935-7 constituted 72 per cent of the total. A more serious change has been Grimsby's inability to regain the level of total trade of 1910-13 at any time between the last war and 1939. Over the inter-war period as a whole the trade of Grimsby averaged only about 55 per cent of its amount in 1913; and, after climbing up to 75 per cent of the 1913 figure in 1930, showed a persistent tendency to decline. Furthermore, the port has failed to maintain its position relatively as well as absolutely. Whilst in 1910-13 it accounted for 26 per cent of the total trade of Hull, Goole, and Grimsby, between 1935 and 1937 it was only responsible for 16 per cent of a reduced total.

An analysis of Grimsby trade shortly before the war shows that food forms by far the most important class of import, raw materials coming second and manufactures third. In quantity terms bacon is

TABLE 69
TRADE OF GRIMSBY, 1935-7

	Average Value 1935-7 (£000's)	% of total imports of Grimsby
<i>Imports</i>	13,217	100
<i>Food, Drink, Tobacco</i>	8,371	67.1
Bacon	3,996	30.2
Butter	3,931	29.7
Fish	371	2.8
<i>Raw Materials, etc.</i>	2,494	18.9
Timber	960	7.3
Wool, Rag and Waste, etc.	525	4.0
Iron-Ore and Scrap	484	3.7
Paper-making Materials	359	2.7
<i>Articles Wholly or Mainly Manufactured</i>	1,850	14.0
Petrol	780	5.9

	Average Value 1935-7 (£000's)	% of total exports of Grimsby
<i>Exports (U.K. Produce and Manufacture)</i>	5,083	100
<i>Food, Drink, Tobacco</i>	154	3.0
<i>Raw Materials, etc.</i>	1,747	34.4
Coal	1,528	30.1
<i>Articles Wholly or Mainly Manufactured</i>	2,968	58.4
Cotton Yarns and Manufactures	1,076	21.2
Woollen and Worsted Yarns and Manufactures	433	8.5
Iron, Steel and Manufactures thereof	417	8.2
Machinery and Parts	347	6.8

Grimsby's most important food import, followed by butter, sugar, and fish in that order. In value terms bacon and butter are of roughly equal importance, and between them account for something like 90 per cent of the imports of the food category. The absolute and relative importance of bacon imports in Grimsby has shown a spectacular rise since the last war. Amongst raw material imports that of timber has been easily the most important in value terms, followed by wool, iron-ore and scrap, and paper-making materials. Amongst manufactures easily the most important import in value terms has been petrol. Iron and steel and their manufactures, machinery, dyes and dye-stuffs, glass and glassware, and hatter's fur have also been of some importance among imports in the category of manufactures.

The value of manufactured exports as a class tends to be about double that of raw material exports. Amongst the former cotton yarns and manufactures are (as was the case before the last war) of greatest importance in value terms; though the relative position of this export in this class has been maintained, there has of course been a very marked fall in the export of cotton products. Woollen and worsted yarns and manufactures, iron and steel and their manufactures, and machinery and parts, all of roughly equal importance, follow cotton products in order of importance among manufactured exports. Amongst raw materials coal is the only important export either in quantity or value terms. In recent years the value of coal exported from Grimsby has been more than twice that exported from Goole.

Apart from the standard activities found in any community, fishing and transit trade formed in 1939 the most important elements in Grimsby's economic structure. Fishing gave direct employment to more workers at Grimsby than at Hull, and was much more important relatively to the total employment available in the town. Amongst food industries biscuit manufacture and jam-making were of some local importance. As in the case of the other Humber ports, such shipbuilding and repairing as there was depended largely on fishing for its existence.

Like Hull, Grimsby has experienced all the disadvantages of war without countervailing advantages; fishing has been severely curtailed, though not quite as drastically as in Hull; the population has fallen, and opportunities for wartime employment have been very limited. It is common knowledge that in both Hull and Grimsby the increase in the number of female insured workers has been less than the national average, and that this has been due to the relative absence of suitable war industries.

GOOLE

Goole's population has fluctuated considerably since the early 'twenties; there was a rise in the early 'twenties, a fall from then till 1928, a steep rise till 1932, and a subsequent sharp fall until the war. The 1938 population of Goole was roughly the same as it had been in 1922; there was no substantial increase of population at Goole as there was at Grimsby and Hull. This is the more remarkable when it is considered that at the beginning of the period the birth-rate was substantially higher in Goole than in England and Wales as a whole, and somewhat higher than in either Grimsby or Hull. In the course of the decline in Goole's fortunes after 1922 its birth-rate not merely followed the national downward trend but, from being over 4 per thousand higher than the birth-rate in England and Wales as a whole, fell to a level only 1 per thousand above it: it is now lower than the

birth-rate in either Hull or Grimsby. As a result of this the natural increase of Goole's population has shown a steady and rapid decline; in the last years of peace the annual increase through natural factors was about 4 per thousand at Goole, as against 2.5 per thousand in England and Wales as a whole and over 5.5 per thousand at Grimsby and Hull.

Despite the fall in Goole's rate of natural increase there was still an excess of births over deaths, and the town's population would have risen throughout the 'twenties and 'thirties (though at a diminishing rate) had it not been for net outward migration. With the exception of a few years at the height of the slump net migration from Goole has always been in an outward direction since the early 'twenties, and has been at a higher rate than that for the other Humber ports. It is believed that this migration has been, in the main, towards the West Riding; and people locally attribute it in no small part to the marked lack of opportunities for juvenile and female employment in Goole itself. There is a strong feeling locally that this outward movement has seriously hampered the town's development; for, as is well known, migration is a selective process and tends to draw away the youngest, more ambitious, and more enterprising sections of the population. It is claimed, for example, that the failure to develop bakeries in Goole—the town is dependent on Hull for 90 per cent of its bread supply—is symptomatic of the lack of enterprise which the continual outward migration has both accentuated and perpetuated.

Goole lies fifty miles inland, on the Yorkshire Ouse, and is (except for Selby) the most inland port on the East Coast. It owes its development from a village to a substantial town and port to the activities of Aire and Calder Navigation, and was the property of this body from the time its modern history began until the early part of last century. Goole is linked up with an extensive system of water communications giving access to the large industrial areas of West and South Yorkshire and to Lancashire beyond; its proximity to the South Yorkshire coalfield has had an obvious bearing on its development. A high proportion of the coal exported from Goole before the war was brought along the inland waterways to the port in floating steel boxes drawn by tugs (the compartment boat system). A 'train' of compartment boats (locally called Tom Puddings) consists of up to 19 boxes, each holding about 40 tons of coal. This ingenious and economic method of coal transport is peculiar to Goole, and has been developed on a large scale; over a thousand of these compartment boats are employed. Although Goole has the advantage over Hull of being 25 miles farther inland, its development as a port has hitherto been handicapped by its ability to accommo-

the average size of cargo vessels increases after the war, Goole may well find itself forced either to undertake expensive improvements or to face a continued decline in its fortunes.

TABLE 70
TRADE OF GOOLE, 1935-7

	Average Value 1935-7 (£000's)	% of total imports of Goole
<i>Imports</i>	6,155	100
<i>Food, Drink, Tobacco</i>	1,689	27.4
Butter	781	12.7
Bacon	380	6.2
Condensed Milk	126	2.1
<i>Raw Materials, etc.</i>	1,641	26.7
Wool, Raw and Waste, and Woollen Rags	1,054	17.1
<i>Articles Wholly or Mainly Manufactured</i>	2,810	45.7
Chemicals, etc.	550	8.9
Iron and Steel and Manufactures thereof	537	8.7
Machinery and Parts	319	5.2
Paper, Cardboard, etc.	316	5.1

	Average Value 1935-7 (£000's)	% of total exports of Goole
<i>Exports (U.K. Produce and Manufacture)</i>	8,180	100
<i>Food, Drink, Tobacco</i>	118	1.4
<i>Raw Materials, etc.</i>	2,521	30.8
Coal	691	8.4
Wool and Wool Waste	1,328	16.2
Coal-tar, Pitch, etc.	194	2.4
<i>Articles Wholly or Mainly Manufactured</i>	5,540	67.7
Woollen and Worsted Yarns and Manufactures	1,863	27.8
Cotton Yarns and Manufactures	1,283	15.7
Machinery and Parts	654	8.0
Iron and Steel and Manufactures thereof	444	5.4

Before the last war 55 per cent of the total value of Goole's trade consisted of exports, amongst which cotton yarns and manufactures were of greatest value, with coal second and woollen and worsted yarns and manufactures third. Sugar and butter were amongst the most important of its imports in terms of value. In the matter of relative importance of import and export trade Goole was like Grimsby and unlike Hull. Immediately before the war it was the only one of the three ports in which the value of exports exceeded

that of imports; the relative importance of the two types of trade in Goole's case has changed very little since 1913. But although in that sense Goole has been able to carry on as before there are more important senses in which it has recently failed to do so. Despite considerable fluctuations, Goole was able on the average to maintain the volume both of its exports and (except for 1919-23) of its total trade at the level of the years before 1914 in the period between the end of the last war and 1931. From 1931 onwards a sharp decline in both imports and exports set in, and this decline proved to be not merely of a cyclical but rather of a permanent character. Between 1913 and 1937 the value of Goole's trade averaged about three-quarters of its amount between 1910 and 1913, and there was no sign of recovery. Goole's position among the Humber ports has declined relatively as well as absolutely: between 1910 and 1913 Goole secured nearly 15 per cent of the trade of Hull, Grimsby, and Goole, together, while by 1935-7 the share had fallen to 12 per cent.

An analysis of the main elements in Goole's trade in recent years shows that amongst imports the class of manufactures has been a good deal more important in value terms than either foodstuffs or raw materials, the last two tending to a rough equality. Within the class of manufactures iron and steel and their products have tended to be greatest in value, followed by dyes and dyestuffs, paper, and machinery and parts. In the raw material class the biggest import in value terms has been wool. Other imports in this class have been relatively insignificant, with the exception of wooden sleepers. In the foodstuffs class the biggest import in quantity terms has been sugar, followed by butter, condensed milk, and bacon, in that order. In value terms butter has been easily the most important food import followed by bacon, condensed milk, and wine. The relative importance of sugar, which before the last war was—along with butter—the most important import in value terms declined considerably before the beginning of the present war.

Amongst exports manufactures were, as a class, three and four times as important in value terms between 1935 and 1937 as raw materials; but in terms of weight coal exports have naturally tended to dwarf everything else. Amongst manufactures the most important exports in value terms were woollen and worsted yarns and manufactures with cotton yarns and manufactures not very far behind. Coal and wool and wool waste were easily the most important exports in the raw material class.

Goole being essentially a transit port, it is not surprising that a higher proportion of its insured workers were attached before the war to transport and communications than to any other single activity; this group contained more than 34 per cent of the insured.

figures in Table 68 somewhat underestimate the importance of transit trade to the town, partly because of the exemption of numbers of railway workers from unemployment insurance. Shipbuilding and marine engineering is the only other important source of primary employment (apart from agriculture) in the town and accounted before the war for over 10 per cent of the insured population.

Goole has not been handicapped by the war to quite the same extent as have the other Humber ports, for certain opportunities of increased employment have partially offset the inevitable curtailment of its major activity, coal exporting.

SELBY

The population of Selby decreased from 1925 to 1928. Thereafter an upward trend started and continued till 1936, when a decrease again set in; the population of the town was the same in 1939 as it had been in 1926. The birth-rate has always been considerably lower in Selby than in Goole, Grimsby, or Hull, the trend approximating more closely to that in England and Wales as a whole. A similar tendency is found in the town's natural increase, though with the exception of one year, 1937, births were always in excess of deaths between the years 1928 and 1938. Despite this Selby's population has declined as a result of net emigration. Except for the early 'thirties Selby was an exporter of people throughout the years between the last and the present wars. Indeed, the net migration outwards in the late 'twenties was more striking than it was even in Goole. As in the case of the other towns, Selby still had in the late 'thirties a balance on the wrong side, though this was less marked than it had been.

Situated as it is, at the point where the L.N.E.R. main London to Scotland line crosses the Hull to Liverpool line, Selby is naturally well served from a railway point of view. It is also an inland port in so far as the River Ouse is navigable up to Selby Bridge for vessels drawing up to twelve and a half feet of water. Moreover, the Aire and Calder Canal System forms a junction with the Ouse at Selby. Its water connexions have had an important bearing on the development locally of seed-crushing and cattle cake manufacture; over 24 per cent of the non-agricultural insured workers of the town are attached to the 'oil, glue, soap, ink, matches, etc.' group. A fleet of lighters tows the raw materials from Hull to the mills, and some of the finished products back again to Hull for trans-shipment. The presence of chemical works and flour mills in Selby is also partly to be explained by its waterway advantages, and coasting steamers bring beet to the local sugar factory from as far afield as the South Coast. Shipbuilding on a small scale, with broadside launching, is made possible by the town's river situation. There is some reason to

believe that the further industrialization of Selby may to some extent have been inhibited by two road transport bottle-necks, a toll bridge over the Ouse, and another bridge incapable of taking heavy loads on a road leading to the river bank and the main industrial zone of the town. The opening of a new bridge since the war has overcome the second of these difficulties, and the proposed new trunk road from Liverpool to Hull would involve the building of a new bridge over the Ouse. It would not be surprising if Selby's industrial progress were accelerated, once this new trunk road is open to traffic. However that may be, Selby's position in the centre of a rich agricultural area, and at the junction of important rail and water routes, must always ensure it a place of some importance in the area's economy.

By comparison with the towns so far discussed it cannot be said that Selby's economic structure has been seriously distorted by war conditions. Both the nature of its peace-time industries and its less vulnerable situation, together with its importance as an agricultural centre, have contributed towards this result.

FUTURE PROSPECTS—GENERAL COMPARISON

Although Hull, Grimsby, and Goole still have a rate of natural increase above the national average and sufficient, in the absence of other factors, to secure a small annual increase in population, there is no reason to suppose that the tendency in the last years of peace for population to fall as a result of emigration both in these ports and in Selby will fail to reappear. Even at Hull, the only one of the four ports to record a net increase in population between 1931 and 1938, there was a decline after 1935; and a further decline in all the ports is to be expected, becoming steeper if the peace-time downward trend in the birth-rate persists.

In one sense the pre-war emigration was more a cause than a result of declining prosperity, since it meant the drawing away of the younger, more enterprising, and more adaptable elements in the population. Local awareness of this seems to have been greatest in the case of Goole, where the migration itself was proportionately most striking. It is possible that Hull, Grimsby, and Selby were able to some degree to counter-balance the disadvantages of emigration by drawing in from the rural districts around them small numbers of people with the same favourable characteristics as the urban emigrants themselves.

In another and more important sense emigration was a symptom of economic decline, inasmuch as people were having to leave their home towns to secure opportunities for economic advancement, or even to secure employment at all. In this respect there was a pro-

Selby in the ten years before the war. The absolute level of unemployment in these three ports tended to rise in these years, comparing similar points in the trade cycle, and unemployment in them also grew worse in relation to the rest of the country; unemployment in Great Britain was approximately at the same level in 1937 as in 1929, while at Goole, Grimsby, and Selby it was very much higher. Hull's position did not deteriorate in these years; but unemployment in Hull was above the national level in 1929 as well as in 1937. The justification for assuming that emigration will be resumed is the absence of any reason to expect a radical improvement in the employment situation in the four ports, apart from the first year or two of reconstruction. There may be some improvement, especially at Hull; but it may well be insufficient.

TABLE 71
PERCENTAGE OF INSURED WORKERS UNEMPLOYED
HULL, GRIMSBY, GOOLE, AND SELBY

Annual Average			
	1929	1932	1937
Hull	14.2	21.4	13.3
Grimsby	8.4	17.4	15.1
Goole	11.0	28.3	19.6
Selby	10.8	33.5	13.6
Great Britain	10.6	22.2	10.8

From the Ministry of Labour's Local Unemployment Index.

One improvement which is definitely likely to occur, though it will affect the character of employment more than its volume, is in employment at the docks; the war has resulted in the decasualization of dock labour, which, however welcome in many respects, is likely to render large numbers of dock workers redundant in the post-war period. Apart from this, the prospects for employment in handling the trade of the ports are scarcely favourable. There are no very obvious reasons for expecting any marked long-term improvement in the pre-war trends of Humber trade; the failure of transit trade in the four ports together to provide a secular or long-term increase of work corresponding to the rate of natural increase of the population seems likely to be repeated. In addition, it seems probable that the tendency for Hull's share in the total trade to increase will be maintained, or at least not reversed. It is not easy to explain the failure of Goole and Grimsby to hold their own against Hull in the years before the war. Goole, it may be said, was unduly dependent on coal export and could only accommodate vessels of limited size. Yet Immingham, accessible to very large vessels, and with facilities for handling a wide variety of bulky cargoes, was even less fortunate

than Goole. Amongst the various explanations, none entirely satisfactory, of Hull's greater degree of success in attracting trade, some importance should probably be attached to its greater range and volume of industry. Although none of the ports has an industrial hinterland in the accepted sense of the term (that is, a large industrial area which can be more economically served from the 'home' port than from any other), Hull certainly has a greater amount of industry within its area than the other two ports; and, as has been stressed, this industry provides a solid though small basis for the trade of the port, since the imports and exports concerned have of necessity to go through Hull itself.

Whatever the cause, there is no question of the fact that before the war Hull was tending to gain at the expense of the other Humber ports, and there is no reason to think that the trend will be reversed; while Hull may not necessarily be prosperous, Goole and Grimsby (with Immingham) would appear to be definitely unlikely to be able to provide adequate employment for their population, as far as transit trade is concerned, once any post-war boom has passed. Nor does the improvement of dock facilities at these ports seem likely to relieve the position. For one thing, the less use made of these ports already enables them to handle certain types of traffic with greater speed than Hull; but there is no evidence that this superiority in speed has made any appreciable change in the interport division of traffic. It is probably truer to suggest that, in the absence of improvement of certain facilities (e.g. the projected new dock at Goole), these ports can be expected to obtain an even smaller proportion of Humber trade than they did before the present war.

Can any alleviation of the position at Grimsby, Goole, and Selby, and any increase in employment at Hull, be expected through the development of local industries apart from transit trade? The prospects for Hull appear on the whole to be relatively favourable, provided—considerable emphasis must be laid on this point—that the short-term difficulties created for the fishing industry by the war can be successfully overcome. In view of the enterprise and excellent organization of the Hull fishing fleet its long-term prospects should be good; but great difficulties may be met in the short run if adequate steps are not taken to enable local owners to refit and (where necessary) replace the vessels requisitioned during the war. There may be certain other short-term difficulties, especially over the choice of grounds to be fished; but these are of relatively small importance by comparison with the problem of replacements. In the case of Hull manufacturing industries, the prospects of improved employment in some groups (as compared with the position before the war) seem on the whole to balance the possibility of a decline in others, leaving out of account the industries most likely to be

influenced by post-war building programmes; in these industries, as has already been suggested, there may well be a considerable expansion. Building itself, as well as many of the service trades, will also presumably employ more than before the war.

Grimsby's position is less favourable. Much more enterprise was shown by the Hull than by the Grimsby fishing industry until the late 1930's, when the latter showed some signs of revival and recovery of its old position. If the Grimsby industry were to make use of its slight wartime advantage over Hull—that of having a nucleus of its trawling fleet operating and making profits—to modernize its trawlers after the war and to fish to a greater extent than before in distant waters, it might be successful in improving both its absolute and its relative position. Already it has the advantage of a much larger and more modern system of fish docks than Hull possesses. Much will depend on the ability of Hull trawler owners to overcome their short-term post-war difficulties in a reasonable time; should they fail to do so, the Grimsby industry is almost certain in any event to experience a marked revival which, bearing in mind the importance of fishing to the town, would probably go far towards providing adequate direct and indirect employment for the population. Other Grimsby industries—jam-making, biscuit manufacture, flour-milling, newsprint manufacture—show no signs of developing to an extent likely to alter the employment situation materially. Nor does the experience of the years preceding the present war suggest that new industries are likely to be set up in any quantity in Grimsby. Not that the town is without advantages for certain types of industry. Any industry dependent on fishing would obviously be appropriate, as would those operating on imported materials; but the same could be said of Hull, to which industries choosing a Humber location might be more likely to migrate. Grimsby's road, rail, and water connexions with the interior are probably not quite as good as Hull's; it has been suggested locally that improvements are needed in railway arrangements at Lincoln, and a new bridge over the lower Trent for both road and rail traffic may in time be required to relieve the strain on the existing bridge at Keadby. Both in Hull and Grimsby considerable drainage improvements would be needed before any large-scale new factory building on the best sites (from a transport point of view) could be undertaken. In both ports water, gas, and electricity are likely to be available in adequate quantities and at reasonable prices. Grimsby has, relatively, a slightly larger reserve of available female labour than Hull; 22 per cent of its 1939 insured workers were females, as against 25 per cent in Hull and 29 per cent in Great Britain.

If Grimsby suffers from a lack of economic diversification by comparison with Hull, Goole is obviously in a very much worse

position. In Goole transit trade is not merely the dominant activity; it is almost the only source of primary employment worthy of mention. There was little sign either during or before the war of any promising new industrial development. Yet Goole has advantages for the setting-up of new industries when compared with either Hull or Grimsby. Transport connexions with the industrial west either by road or rail or water are as good or better, and the distances involved are shorter. Even more important, Goole has sites along the Dutch River, ideal from a transport point of view, which could have industrial premises erected on them without the necessity of first undertaking large-scale drainage projects; the water, gas, and electricity position is good. Goole's large reserve of female labour (only 16 per cent of its 1939 insured workers were females) is both an attraction and, along with the peace-time unemployment percentage, an index of the urgency of its need for new industry.

Selby, despite the heavy concentration of its workers in seed-crushing and cattle-cake manufacture, has for its size a reasonable variety of economic activities. Despite the almost chronic tendency of its population to fall or at best remain stationary during the inter-war period, and its very unfavourable unemployment experience, it is reasonable to suppose that the recent and impending improvement of its road transport facilities will, without leading to any spectacular change in fortunes, at least enable Selby to retain and perhaps slightly to improve its position. The reserve of female labour in Selby was larger in peace-time than that in any of the other three towns; only 14 per cent of the 1939 insured population were females. It is of interest to note that of the four towns the two with the lowest proportion of female workers also suffered from the highest proportion of unemployment. Whether women in this area who have entered industry for the first time during the war will be more or less willing to take advantage of any employment opportunities arising locally after the war is impossible to say; the fact that their war work has, in the main, not been in the immediate locality may well mean that they will be less anxious for peace-time employment than women who have found work in war factories in their own home districts.

CHAPTER X

THE EAST MIDLANDS

THE six counties of the East Midland Civil Defence Region¹ made up before the war one of the most prosperous regions in the country. Unemployment in all of them except Rutland, and in one or two years Lincolnshire, was well below the national level. The average percentage of unemployment in Great Britain between 1931 and 1936 was 18·4 per cent. In Lincolnshire the average was 17·7 per cent; in Nottinghamshire 16·3 per cent; in Derbyshire 15·6 per cent; and in Northamptonshire and Leicestershire the proportion fell as low as 12·6 and 11·0 per cent respectively. Lincolnshire experienced slightly more than the national average of cyclical unemployment during the slump of the early 'thirties, and Rutland, where the insured population is tiny, experienced a good deal more. In Derbyshire and Northamptonshire cyclical swings seem to have been on much the same scale as in Great Britain as a whole, and in Leicestershire and Nottinghamshire unemployment increased distinctly less in the slump of 1931 than in the country generally. There was some persistent excess unemployment in the North-western corner of Derbyshire, which forms part of the Lancashire cotton area, and in the coalfields of Derbyshire and Nottinghamshire; several towns in these areas appeared in the Ministry of Labour's lists of depressed districts. A fair impression of the general level of prosperity in the East Midlands is given by Map III; Leicestershire and Northamptonshire lie on the outer edge of the region, centred on London, in which prosperity reached the highest level attained in Great Britain before the war, while Nottinghamshire, Derbyshire, and Lincolnshire form part of the ring of counties extending from Suffolk to Gloucestershire in which prosperity was about or slightly above the national average.

The East Midlands were defined in various ways for the purposes of pre-war official statistics, and it is not easy to collect figures for dates later than the Census of 1931 on a fully comparable basis. From this point of view Lincolnshire stands rather apart from the rest of the East Midlands, since it was excluded from the East Midland area as defined for the Census of Production. Lincolnshire is predominantly an agricultural county. In 1931 some 28 per cent of its male occupied population² and 23 per cent of its total occupied population were directly engaged in agriculture; the corresponding

¹ Northampton and Peterborough, Rutland, Lincoln, Leicester, Nottingham, Derby.

² Excluding those out of work.

proportion of the total occupied population of England and Wales was 6 per cent. There is a substantial tourist industry along the Lincolnshire coast, particularly at Cleethorpes and Skegness. The processing industries commonly associated with agriculture have appeared in Lincolnshire in increasing variety in recent years, and there is also an important engineering industry centred in Lincoln itself and in several of the small towns near or just beyond the western border of the county—Gainsborough, Newark, Grantham—and a large iron and steel industry in the north of the county, round Scunthorpe, together with a considerable amount of iron-ore quarrying. Steel output has risen more rapidly since the Great War in North Lincolnshire than in any other major producing area, from 241,000 tons in 1913 to 1,299,000 in 1937; pig-iron production more than doubled in the same period, from 450,000 tons to 1,043,000, and the amount of ore produced in Lincolnshire as a whole, including the production of fields south of Lincoln and Grantham, rose from 2,640,700 tons to 4,385,800. Lincolnshire has in addition the important fishing industry and transit trade activities of Grimsby.

Statistics for the remainder of the East Midlands (to be called for convenience the Industrial East Midlands—the name is not altogether happy, but will serve to point the distinction between this area and the predominantly agricultural economy of Lincolnshire)—are available in the Census of Production.¹ The Census of 1935 showed the leading industries of the Industrial East Midlands as coal mining, hosiery, boots and shoes, engineering, the miscellaneous textile and clothing trades, and iron and steel, in that order. The iron and steel industry included in 1935 several branches which do not appear separately in Table 72; there were 3,500 blast-furnace workers in employment, some hundreds of workers engaged in steel making and rolling, and some thousands of iron-ore miners. Iron-ore output before the war was larger in the combined areas of Northamptonshire, Leicestershire, and Rutland than in Lincolnshire, and was still rising. In the East Midlands as a whole 10,031,000 tons of ore were produced in 1937, about 72 per cent of the output of all Great Britain in terms of weight; in terms of value the proportion was about 45 per cent, since East Midland ores are of relatively low quality. The proportion of the national output of iron ore produced in the East Midlands had risen from about 40 per cent, in terms of weight, in 1913. There are several other trades in which the Industrial East Midlands provide a very high proportion of the national output. Some 57 per cent of all employment in Great Britain in 1935 on boot and shoe manufacturing was concentrated in the Industrial East Midlands, principally

¹ The Census of Production area excludes Lincolnshire, Peterborough, and the Glossop and New Mills district of Derbyshire, but includes the remainder of the East Midland Civil Defence Region, together with Northern Buckinghamshire.

TABLE 72
CENSUS OF PRODUCTION, 1935
PERSONS EMPLOYED IN CERTAIN INDUSTRIES
EAST MIDLAND DISTRICT

	Number 000's	Number in each industry As % of all employed in the district	As % of all employed in industry in Great Britain
Hosiery	74	14	2
Silk and Rayon	14	2.5	1
Lace	12	2	—
Cotton Spinning and Doubling	6	1	2.5
Textile Finishing	10	2	2
Tailoring, Dressmaking, etc.	24	4	5
Boots and Shoes	66	12	2
Mechanical and Constructional En- gineering	27	5	6
Motors and Cycles	11	2	3
Electrical Engineering	6	1	3.5
Iron and Steel Foundries	14	2.5	1.5
Brick and Fireclay	9	2	1
Printing and Bookbinding	9	2	2
Other Factory Trades	95	17	39
Coal Mining	91	17	11
Other Non-factory Trades	78	14	19
Total	546	100	100

in Leicestershire and Northamptonshire; 65 per cent of the total employment on hosiery was given in the hosiery province of Leicestershire and Nottinghamshire, and nearly 75 per cent of all employment on lace was concentrated in the Nottingham district.

In spite of general prosperity, there were certain trades in the East Midlands as a whole in which employment was falling before the war. The difficulties of many (though by no means all) branches of agriculture were reflected, here as elsewhere, in the falling population of many rural districts. Employment in the lace and boot and shoe industries fell; in each of these cases the number of workers affected was small, and in the case of boots and shoes falling employment was accompanied by rising output. The output of boots and shoes in Great Britain as a whole increased $11\frac{1}{2}$ per cent between 1924 and 1935, while the number of insured workers in the industry fell by 4 per cent and the number actually employed by $11\frac{1}{2}$ per cent.¹ There was a much heavier fall in employment in coal mining; a slight rise in output was offset by longer hours and rapidly increasing

¹ This figure exaggerates the long-term downward trend. Between June 1924 and June 1937, a peak year of the trade cycle, the fall was $5\frac{1}{2}$ per cent.

efficiency, and about 35 per cent fewer miners were employed in 1937 than in 1924. From the point of view of the region as a whole, though not always from the point of view of particular districts, these declines were considerably more than compensated by the rise in employment in industries such as hosiery, rayon, iron and steel, and many branches of engineering, as well as in building and the service trades.

Lincolnshire being an agricultural county, and having in addition experienced unemployment little below the national average and heavier than in any other East Midland county except Rutland, it is not surprising to find that its population was increasing before the war rather more slowly than the population of the country as a whole—by 2.1 per cent between 1931 and 1938, as against 3.2 per cent for Great Britain. In the more prosperous Industrial East Midlands population grew more rapidly than in the country generally. The total population of the Registrar-General's East Midland Region, which is not greatly different from the Industrial East Midlands,¹ was 2,365,900 in 1931 and 2,455,700 in 1938, an increase of 3.8 per cent; this relatively rapid growth followed a similar development between 1921 and 1931, when the population of the same region increased by 7.7 per cent, as compared with a national rate of 4.7 per cent. As Table 73 shows, the rise between 1931 and 1938 was unevenly distributed. A large part of the difference between Derbyshire on the one hand and Leicestershire and Nottinghamshire on the other was due to migration. Derbyshire, which includes a depressed cotton district to the North-west and the older part of the Derbyshire and Nottinghamshire coalfield, experienced a small amount of emigration; the other two counties received a small number of immigrants, sufficient to account for almost the whole of the difference between their rate of growth and the rate of growth in Derbyshire. Northamptonshire is a different matter; there was as much immigration into Northamptonshire as into Nottinghamshire, and the low rate of increase of the population in Northamptonshire was clearly due to some other cause. The reason appears to have been the low level of fertility in Northamptonshire, which in 1931 had the fifth lowest fertility of any county in England and Wales—well below any other county in the East Midlands.²

It was not possible, in the time and with the resources at the disposal of the Nuffield Survey, to cover the whole of the East

¹ The Registrar-General's region includes Peterborough and the Glossop and New Mills district of Derbyshire, but excludes Rutland and Northern Buckinghamshire.

² Northamptonshire's gross reproduction rate in 1931 was 0.787. The counties with lower rates were London, Surrey, Sussex, and Cardigan. Figures for other East Midland counties were: Leicester 0.907, Rutland 1.040, Nottingham 1.000, Lincoln 1.096, Derby 0.995. Estimates by D. V. Glass.

TABLE 73
POPULATION CHANGES AND MIGRATION. EAST MIDLANDS, 1931-8

	% increase in population 1931-8		Average annual gain or loss (%) by migration 1931-6
	Total	Annual average	
Northamptonshire .	{ 3.5 ¹ 2.7 ²	{ 0.5 ¹ 0.4 ²	+ 0.23 ¹
Leicestershire .	4.5	0.6	+ 0.30
Derbyshire .	2.2	0.3	- 0.05
Nottinghamshire .	5.1	0.7	+ 0.21
Lincolnshire .	2.1	0.3	- 0.03

Midlands adequately. Apart from Grimsby, which has been considered along with the other Humber ports, the greater part of Lincolnshire was covered only in outline, and the same is true of most of Nottinghamshire and Derbyshire. It was possible to collect fuller information for the Survey area centred on Leicester, and including Northamptonshire as well as Leicestershire. This is reflected in what follows; as a result of the greater amount of information available, more space has been given to the southern part of the East Midlands than to the three northern counties, which have a considerably greater population and problems of at least equal difficulty.

NORTHAMPTONSHIRE³

Northamptonshire's main industries before the war were boots and shoes, with the associated leather industry, clothing, and iron and steel (including ironstone mining and quarrying), and a certain amount of engineering. The county is also largely agricultural, more so than Table 74 indicates, as the average number of workers on each farm is small, while the farmers themselves are outside the insurance scheme.

The boot and shoe industry is overwhelmingly the most important, especially for female employment. As Table 74 shows, it provided employment in 1939 for more than a quarter of all males and nearly a half of all females in insurable occupations in the county as a whole. These figures are even more striking when it is borne in mind that the industry is not evenly spread over the county. More than a third of the county total of boot and shoe operatives are employed at Northampton. Practically all the others are employed in and around Kettering, Wellingborough, and Rushden. In addition to these two concentrations, there are a few boot and shoe factories in

¹ Including Peterborough.

² Excluding Peterborough.

³ The Northamptonshire survey area excludes the Soke of Peterborough. The draft of the first part of this section, dealing with the boot and shoe industry, was prepared by Mr. F. Lee, the Nuffield Survey's Local Investigator for Northamptonshire.

TABLE 74

INDUSTRIAL DISTRIBUTION OF INSURED WORKERS, AGED 14-64,
IN NORTHAMPTONSHIRE, JULY 1939

	Males %	Females %	Total %	Males	Females	Total
Boot and Shoe	26.7	47.5	35.3	22,125	16,195	38,320
Leather	4.3	1.7	3.5	3,179	594	3,773
Clothing	2.1	20.4	7.8	1,563	6,938	8,501
Iron, Steel, and Engineering	9.9	1.3	7.2	7,344	444	7,788
Ironstone Mining	2.8	—	1.9	2,071	—	2,071
Agriculture	6.6	0.2	4.6	4,948	54	5,002
Building	8.8	0.1	6.1	6,545	41	6,586
Distribution	3.9	9.9	9.2	6,646	3,373	10,019
Transport	4.4	0.4	3.1	3,285	130	3,415
Other Trades	22.6	18.6	21.3	16,856	6,324	23,180
Total	100.0	100.0	100.0	74,562	34,093	108,655

Based on an analysis of returns from the Northampton, Kettering, and Wellingborough Exchanges. These three exchange areas include all the main centres in Northamptonshire (excluding Peterborough) and almost the whole insured population.

isolated small towns or villages; but they account for less than 5 per cent of the county total.

The industry is thus concentrated in the central portion of the county; there are only two boot and shoe factories in the portion of the county West of a line drawn from Market Harborough to Buckingham, and none in the portion east of a line drawn from Market Harborough to Huntingdon. Even in the central portion there are extensive stretches of agricultural country. Table 75 shows the geographical distribution and local importance of the boot and shoe industry in Northamptonshire, at July 1939, according to the Ministry of Labour's exchange areas and their subdivisions. Although Northampton is the biggest centre, it is not quite so dominated by the boot and shoe industry as Rushden, Kettering, or Wellingborough, or some of the smaller towns. In the case of Rushden nearly three-quarters of all insured workers in 1939 were employed in boot and shoe factories, as against just over three-tenths at Northampton. The proportion of boot and shoe workers to all workers in the county town was actually below the county average of 35.3 per cent.

Two other features in the structure of the boot and shoe industry in Northamptonshire are outstanding. Firstly, Northamptonshire concentrates on men's footwear, and to such an extent that it dominates the national market. Out of every five pairs of men's footwear manufactured in Great Britain, four come from Northamptonshire. There is a small and growing production of women's shoes;

TABLE 75
NORTHAMPTONSHIRE
GEOGRAPHICAL DISTRIBUTION OF INSURED BOOT AND SHOE
WORKERS, JULY 1939. MINISTRY OF LABOUR EXCHANGE AND
SUB-OFFICE AREAS

Exchange Area	Number of Insured Workers:		Boot and shoe workers in each area:	
	All Trades	Boot and Shoe	As % of workers in all trades	As % of all Northampton- shire boot and shoe workers
<i>Northampton</i>				
Northampton H.Q.	45,313	14,203	31.3	37.1
Daventry S.O.	2,815	606	21.5	1.6
Towcester S.O.	1,547	2	—	—
Total	49,675	14,811	29.8	38.7
<i>Kettering</i>				
Kettering H.Q.	18,626	7,201	38.7	18.8
Corby S.O.	6,340	23	—	—
Desborough S.O.	3,860	1,963	50.9	5.1
Thrapston S.O.	1,718	6	—	—
Total	30,544	9,193	30.1	24.0
<i>Wellingborough</i>				
Wellingborough H.Q.	12,860	3,918	30.5	10.2
Rushden S.O.	9,972	7,286	73.1	19.0
Irthlingborough S.O.	2,573	955	37.1	2.5
Raunds S.O.	1,930	1,397	72.4	3.6
Wollaston S.O.	1,101	760	69.0	2.0
Total	28,436	14,316	50.3	37.3
 Grand Total	 108,655	 33,320	 35.3	 100.0

There are no boot and shoe factories in the areas of the Towcester, Corby, and Thrapston Sub-offices, and the thirty-one boot and shoe operatives shown above are explainable by their insurance cards being handed in 'at place of residence' instead of 'at place of work'.

but it does not exceed 7 per cent of the national output. The manufacture of children's footwear is virtually non-existent in the county. Secondly, the different local centres in the county tend to specialize on particular types of men's footwear. This applies even to the small centres, Raunds specializing on army boots, Wollaston on cheap heavy civilian boots, and so on. Northampton is the traditional centre for best-quality men's footwear, but no longer has a monopoly, since the other large centres in the county, especially Kettering, have obtained a permanent place in this market and are now strong competitors.

This concentration on men's footwear is a good and solid guarantee for the future of the boot and shoe industry in Northamptonshire.

Why it originally happened has never been convincingly explained; but, having happened, there seem to be cumulative advantages. The Census of Production shows that Northamptonshire actually strengthened its position in the home market for men's footwear in the twenty years before the war. In 1935 Northamptonshire's share in the national output of men's boots and shoes was 79·5 per cent, against 74·1 per cent in 1924, while its share in the national output of all kinds of footwear, for both sexes and all age-groups, had increased from 32·3 to 34·3 per cent. During this period imports of men's footwear were negligible; there was tariff protection from 1932 onwards. The competition of the British manufacturing centres which were developing fastest—particularly of the Rossendale Valley in Lancashire—was felt mainly in the market for women's and children's shoes, and, even here, not in the market for the type of women's shoes with which Northamptonshire is chiefly concerned. Competent judges saw no reason before the war, and see none now, for expecting Northamptonshire's position relatively to other production areas to be shaken by anything short of a revolution in boot and shoe manufacture.

A revolution is not altogether out of the question. The most immediate threat is perhaps the possibility of cheap mass-production on the lines made famous by the Bata Company in Czechoslovakia. This threat, once widely feared, has so far not materialized, and the fear of it has weakened. The British Bata Shoe Company was established after the introduction of tariffs, with factories near London. It made a faltering start; the special conditions of Czechoslovakia, which favoured the Bata system, proved not to be exportable—or perhaps it would be better to say not to be importable. The boot and shoe industry is highly unionized, under very capable leadership, and the trade union watched the Bata project with close scrutiny. Moreover, there is now a belief in some quarters that, if the need arose, Northamptonshire firms using their own methods could defeat the Bata Company. There is some practical evidence for this. A large Rushden firm before 1939 was making a cheap mass-produced men's shoe, retailed at 5s. a pair through a chain store, which was competitive in price with Bata products and, according to local experts, superior in quality. It was manufactured without using the conveyor belt system, and at piece-rates agreed upon by the trade union.

Soberly considered, the threat of the Bata system, or of any counter-measure to it on the same plane, has not the importance sometimes attributed to it. In the home market, cheapness is not the sole criterion of purchasers of men's footwear; Britain is not the Balkans. The lowest priced shoes are a bad bargain for the purchaser, from both an economic and a health point of view. Again this cheap

and poor type of footwear does not provide scope for the manufacturing skill of Northamptonshire. To try to meet such a threat on its own plane, at any rate on a large scale, would be a retrogressive policy. The proper counter-measure is education of the public in 'foot consciousness', leading to the 'abolition of all forms of shoddy footwear', which is one of the trade union's declared aims, and also one which has the sympathy and support of the manufacturers' association.

There are other remoter threats to the Northamptonshire boot and shoe industry, so far barely rising above the horizon. One is the possibility that a type of rubber may be developed suitable for boot and shoe manufacture and capable of 'breathing' like leather. This threat still remains at the laboratory stage, though it should not be forgotten that big developments in rubber, if they should materialize, might well arrive with a rush. It is arguable that even the invention of a rubber which could 'breathe' would be a serious threat to Northamptonshire only if it resulted in a widespread supersession of the existing methods of leather boot and shoe manufacture by a moulding process of the kind now used for some types of rubber footwear; and that, if no such change occurred, the result would be merely to alter the material used in Northamptonshire, as had already occurred to a small extent before 1939 through the substitution of rubber for leather soles.

On analysis, this argument is not as strong as at first sight: it lacks historical sense and psychological insight, and involves somewhat academic assumption of adaptability on the part of capital and labour. Northamptonshire, it must be kept in mind, is a centre of the leather industry (about the fourth most important in the country), as well as of boot and shoe manufacturing, and the local intercourse between the leaders of the two industries is continuous and intimate. The boot and shoe industry, if not inseparably wedded to the United Tanners' Federation slogan, 'nothing like leather,' at any rate strongly supports it, and on the merits of the case, not for selfish motives. This presages scepticism and resistance to any new claims for rubber, particularly as claims in the past have proved exaggerated. The analogy of the substitution of rubber for leather soles, suggesting that rubber uppers would be merely a continuation, a second step logically following a first step already taken, is very misleading for several reasons. In particular, leather soles and leather uppers are entirely different technical processes, the soles being machine-cut by stamping presses, while the uppers are hand-cut by the 'clickers', who are highly skilled craftsmen and the aristocrats of the industry. Their skill lies in using leather to the best advantage, for leather is valuable (it accounts for about a half of the manufacturer's costs), and is also not a uniform material. Hides or skins vary in size, shape,

quality, texture, and colour, with secondary variations on the last three counts in different parts of the same hide. The clicker's task is not only avoidance of waste but also 'matching', so as to produce shoes which are in fact 'pairs'. To create uniformity out of a material which is not uniform is a work of art. On the other hand, if leather were displaced by rubber, which would be a uniform material, the craftsmanship of the clicker would become obsolete. With its loss, if he transferred to the automatic task of a machine-minder, stamping out rubber uppers, he would also lose both his relatively high wages and his pride in his job.

It is obvious that inventions in rubber, whether they arrived all at once or in several stages, might result in a crisis and a long period of difficulties for the Northamptonshire boot and shoe industry. At the same time, it must always be remembered that this threat still appears relatively remote; little immediate anxiety is felt on account of it by the interested parties in Northamptonshire itself.

The real threat to Northamptonshire's economic structure lies not so much in these revolutionary possibilities as in evolutionary developments. The danger is not that Northamptonshire will lose ground to other manufacturing areas, but that the boot and shoe industry will have a declining personnel. The rate of growth in technical efficiency is much the same in the boot and shoe industry as in other similar industries. It has been calculated that during the past two generations output per man has been doubling in about twenty-five to thirty years, as a result of a series of minor improvements in boot and shoe machinery. This trend will certainly continue, though at an uncertain rate. It therefore follows that, unless the demand for footwear increases at a faster rate, the number of workers engaged in the boot and shoe industry must decline. Figures have already been quoted to illustrate the decline which occurred in the boot and shoe industry in Great Britain as a whole between the wars.

What, then, are the prospects of an increasing demand for Northamptonshire's leather footwear? In the home market for men's boots and shoes there is the overriding factor that the population is not replacing itself, and the limiting factor that Northamptonshire already supplies four-fifths of the total demand. If men decide to have more pairs per head, each pair will last longer. Imports, being already negligible, could increase but cannot be reduced. As for exports, once large but now small, some expansion may be achieved in high-class and specialist footwear, though the quantities could hardly be important; but there seems little if any likelihood of an important expansion in cheap to medium quality exports. In the case of women's footwear the scope for an increasing demand is theoretically large, since Northamptonshire produces only about 7 per cent of the national output: but other manufacturing areas have

competitive advantages, except for a few special lines. Weighing both sides of the problem as best one can, there seem to be heavy odds that during the next half-century the demand for Northamptonshire's leather footwear will not increase as fast as the growth of technical efficiency, with the result that there will be a much smaller number employed in the industry at the end of the period than there was in 1939.

These ordinary evolutionary developments, being small and gradual, are apt to escape attention; their ultimate significance does not appear to have been seized in Northamptonshire, apart from a few persons, despite the fact that here, and here alone, boots and shoes are the dominant industry. Yet this is the most important single factor in the planning of Northamptonshire. If the 1939 level of total employment and population is to be maintained or increased, it is essential on the lowest count, as a precautionary safeguard, that attention be paid now to the expansion of other existing industries or to the introduction of new industries.

The prospects for other Northamptonshire industries appear on the whole to be relatively favourable. The leather industry is associated with boots and shoes, and its position appears to be secure for some time to come. The clothing industry, a much more recent development, is also well established. The clothing trades provide a relatively small amount of work for men, and they have not the same fundamental importance for Northamptonshire as boots and shoes, leather, the iron and steel group, or agriculture. At the same time, they represent a valuable addition to women's work, an important element of diversity, and a useful addition to family incomes.

The greater part of the iron, steel, and engineering group represents blast-furnace workers in the county generally and steel workers at Corby. In 1932 Stewarts and Lloyds employed between 700 and 750 workers at ironstone mines and blast furnaces at Corby. They then began to develop a modern plant with blast furnaces, coke ovens, by-product plant, Bessemer steel plant, blooming mill, strip mill, and tube works, and by 1936 employed 3,900, of whom about half were engaged locally; the rest were either transferred from the company's other works (particularly its works in Lanarkshire) or brought in from other districts. In addition to the Corby plant there are old established blast-furnaces at Wellingborough, Kettering, and Islip.

As a result of the developments at Corby the prospects for the iron and steel industry in Northamptonshire seem bright. Steel output in Northamptonshire rose from nothing in 1913 to 417,600 tons in 1937, and pig-iron output, after falling rather below its 1913 level in 1929, recovered by 1937 to nearly double the level of 1913. The output per head of blast-furnace workers in Great Britain

increased 45 per cent between 1924 and 1935 alone, so that the rise in output in Northamptonshire did not necessarily imply a great increase in employment as compared with 1913. Even in the case of blast furnaces, however, there was some increase; and, whether or not the increase in this section is whittled away by further improvements in efficiency, there is no reason to suppose that in the iron and steel trades as a whole the level of employment reached in Northamptonshire before the war will not at least be maintained. The trend of the English iron and steel industry is eastwards, towards the ore-fields in Lincoln and Northamptonshire. In steel alone, the output of Lincolnshire and Northamptonshire rose between 1913 and 1937 from 3 per cent to over 13 per cent of the output in Great Britain. This trend is based on geological conditions and on solid technical grounds which the war has done nothing to change.

TABLE 76

OUTPUT OF IRON-ORE, IRON, AND STEEL: NORTHAMPTONSHIRE
AND GREAT BRITAIN

		000 tons	
		1913	1937
Iron-Ore:	Northamptonshire . . .	2,916	3,844
	Great Britain . . .	15,987	14,215
Pig-Iron:	Northamptonshire . . .	386	754
	Great Britain . . .	10,260	8,493
Crude Steel:	Northamptonshire . . .	nil	418
	Great Britain . . .	7,664	12,984

For the same reasons it is likely that the output of iron-ore in Northamptonshire will be maintained or increased. This would not necessarily imply an increase in employment. Between 1913 and 1937 the output of iron-ore in Northamptonshire increased 32 per cent; but national statistics show that between 1923 and 1937 the output per worker employed in iron-ore mining and quarrying practically doubled, and the increase in output per head had not come to an end by the beginning of the war.

It is difficult to say how far expansion in other Northamptonshire manufacturing industries, together with the growth which can reasonably be expected in building and the service trades, is likely to offset the long-term decline in boot and shoe manufacturing. The general impression is that, while there is no reason for anxiety over the general level of employment in Northamptonshire for some years ahead, the introduction of at least some new industry—possibly of a considerable amount—is likely to be required over the next few decades.

Apart from this, the most important long-term problem in Northamptonshire is perhaps the question of the population.

Northamptonshire's extraordinarily low fertility is clearly in the long view undesirable; at the same time, it must be recognized that it has not been without its immediate advantages. The market for Northamptonshire products has increased in the past at least in proportion to the rate of growth of the population of the country as a whole, while the number of Northamptonshire workers available to supply it has increased very much more slowly; Northamptonshire's share in the population of England and Wales has been falling consistently since the Census was first taken, though more slowly in recent years, as the rate of change of the population in the country as a whole has diminished. The not insignificant immigration shown in Table 73 was due principally to a purely temporary cause, the transfer of workers and their families from other parts of the country to Corby; a fairer impression of the rate of movement to be expected in normal times is given by the figures for 1927-31, when the net balance of migration was practically negligible. If an effort is to be made in future to level up the rate of population change in Northamptonshire with that in the rest of the country, it will be important to ensure that the upward trend of demand for Northamptonshire products is sufficiently strong to compensate for the loss of the advantage due to the relatively low rate of growth in the past.

There are a number of more immediate industrial problems in Northamptonshire big enough to deserve careful attention. One is the problem of the destruction of agricultural land and amenities by ironstone mining. The Kennet Committee¹ on the Restoration of Land Affected by Iron-ore Working found that in 1937 there were about 2,250 acres of land in the Midlands which had been devastated by iron-ore mining and neither restored for agriculture nor diverted to some other useful purpose; about two-thirds of this area was in Northamptonshire. It was estimated that ultimately, over a period of two centuries, up to 10 per cent of the total area of Northamptonshire was liable to devastation. The Kennet Committee's recommendations were limited by the technical difficulties of restoration, as they appeared before wartime experience became available, and the Scott Committee, which reconsidered this question, was able to go considerably further. To quote the Scott Committee:

'The Kennet Committee came to the conclusion that because of excessive cost, largely owing to suitable machinery not being then available, agricultural restoration was impracticable in the majority of cases and that the cheaper remedy of afforestation was the only practicable remedy to attempt. Since then considerable developments have been made in the design and use of

¹ H.M.S.O., 1939.

earth-moving machinery and we do not think that there should now be any insuperable difficulty in undertaking the preparation of large areas of worked-out land either for afforestation or agricultural purposes or, where required, for constructional development, after the war. We are clear that in principle it is wrong that any body or person should be allowed to work land and leave it in a derelict condition. We therefore recommend that legislation should be passed, imposing an obligation on all those who derive benefit from the working of land for minerals, to restore that land for agricultural or afforestation or other purposes (as may be directed by an appropriate authority) within a short specified period of time after the land has been worked out. This legislation should be passed as soon as the Government is satisfied that suitable machinery could be made available.' (Report of the Committee on *Land Utilization in Rural Areas*, 1942, Cmd. 6378, par. 189.)

These recommendations apply to Leicestershire, Lincolnshire, Rutland, and Oxfordshire as well as to Northampton; but it is Northamptonshire which presents the main problem.

A second immediate problem is the persistent tendency of population to decline and of towns and villages to decay in the south-west of the county, where Northamptonshire adjoins Oxfordshire and Buckinghamshire and, across a narrow projection of Oxfordshire, also Warwickshire. This area has poor road communications, and needs an influx of industry to absorb the surplus of agricultural workers. Its problems are similar to those of the adjoining parts of Oxfordshire, Warwickshire, and Buckinghamshire, and should be considered along with them; it is particularly important that its needs should be taken into account in considering the industrial future of Banbury, Wolverton, and Newport Pagnell, and that there should be a common plan for the development of the iron-ore field which at this point lies across the boundaries of Oxfordshire, Warwickshire, and Northamptonshire. Development in this field before the war was confined to Oxfordshire.

A third problem is the small choice of occupations open to women. In most areas there is no absolute shortage of work for women. Northamptonshire as a whole had in 1939 some 46 insured women workers to each hundred men, as compared with the national average of 39; and over most of the county, though there were big differences between neighbouring towns and villages, the proportion of women workers in large districts was close to the proportion for the county as a whole. Travelling is sometimes needed up to five or six miles each way, or slightly more around Northampton itself; for women who are willing to travel distances of this order

work is usually available. The chief exception is the ironstone and iron and steel manufacturing district which includes Corby; this district is isolated in an agricultural area, and there is no large source of employment for women within easy travelling distance. Elsewhere the problem is not shortage of work, but lack of variety. Half the employed women in Northamptonshire before the war were boot and shoe operatives, and of the others employed in manufacturing industry the great majority worked in the clothing trades. Quite apart from the danger of unemployment if either of these trades should meet severe competition from other areas, there is a case for measures to widen the opportunities open to local women. This is clearly not an urgent problem; but it is one which should be borne in mind.

LEICESTERSHIRE

The four main industries of Leicestershire before the war were hosiery, boots and shoes, engineering, and coal mining. These four, with minor and 'local' industries, made up on the whole one of the best balanced industrial structures in the country, though there were areas even in Leicestershire principally dependent on one industry; the outstanding example was the mining area around Coalville. Even in this area there were a number of other industries, including particularly engineering and elastic webbing. The county as a whole, and its main centres—Hinckley, Loughborough, and Leicester and its suburbs—which contained the great majority of the population, had a very well-balanced economy. Much the most important industrial area was Leicester and the districts immediately adjoining it, which in 1939 contained 131,000 of the 211,000 insured workers in the county (about 62 per cent), and 57 per cent of the total population. As Table 77 shows, this area had three of the four main industries well represented, as well as a number of minor trades. Hinckley, the second largest centre, was concerned mainly with hosiery—chiefly stockings—and with boots and shoes; the boot and shoe factories were for the most part just outside the town, round Earl Shilton and Barwell. Loughborough, the third centre, was chiefly concerned with engineering, including lifting machinery, electrical engineering, and hosiery machinery; it also had some hosiery manufacturing. There was a considerable amount of clothing manufacturing in Leicestershire, largely in connexion with the hosiery industry; about one in nine of the women recorded as occupied in Leicestershire in 1931 were clothing workers. There were some big establishments; one factory at Market Harborough employed nearly 2,000 workers before the war on corsets and hosiery. Other smaller industries included stone-quarrying, notably in Charnwood Forest, pig-iron manufacture near Melton Mowbray, and ironstone-quarrying in the north-east corner of the county, adjoining Rutland and

TABLE 77
LEICESTER

Estimated number of insured persons, aged 16-64, at July 1923 and July 1937

Industry	Estimated No. of insured persons aged 16-64		Increase (+) or Decrease (-) 1923-37		No. in each industry as % of total insured persons at July 1937	
	July 1923	July 1937	No.	% of July 1923	Leicester	Great Britain
Hosiery	25,450	30,950	+ 5,500	+ 22	24.5	0.9
Wool	2,770	2,360	- 410	- 15	1.9	1.7
Textile Bleaching, Printing, and Dyeing, etc.	2,940	2,590	- 350	- 12	2.0	0.7
Tailoring	1,720	1,850	+ 130	+ 8	1.5	1.6
Boots, Shoes, Slippers, and Clogs	22,190	19,340	- 2,850	- 13	15.3	1.0
General Engineering, etc.	6,020	11,710	+ 5,690	+ 94	9.3	4.6
Miscellaneous Metal Goods Industries	660	1,030	+ 370	+ 56	0.8	2.0
Printing, Publishing, and Bookbinding	1,990	3,510	+ 1,520	+ 76	2.8	2.1
Rubber	1,130	1,460	+ 330	+ 29	1.2	0.5
Bread, Biscuits, Cakes, etc.	820	1,220	+ 400	+ 49	1.0	1.3
Cardboard Boxes, Paper Bags, and Stationery	1,070	1,080	+ 10	+ 1	0.8	0.5
Building	4,470	8,110	+ 3,640	+ 81	6.4	7.7
Distributive Trades	11,090	14,700	+ 3,610	+ 33	11.7	15.2
Hotel, Boarding-House, etc., Service	950	1,400	+ 450	+ 47	1.1	3.3
Road Transport (other than Tramway and Omnibus Service)	810	1,230	+ 420	+ 52	1.0	1.5
Gas, Water, and Electricity Supply	1,230	1,110	- 120	- 10	0.9	1.6
All other Industries and Services	17,160	22,430	+ 5,270	+ 31	17.8	53.8
Total, all Industries and Services	102,470	126,080	+23,610	+ 23	100.0	100.0

Statistics relate to the Ministry of Labour's Leicester exchange area.
From the evidence of the Ministry of Labour to the Barlow Commission.

Lincolnshire. The output of iron-ore in Leicestershire was 846,000 tons in 1913 and 1,069,000 tons in 1937; employment was relatively small, amounting only to a few hundreds.

There was no shortage of work for women. Leicestershire as a whole had 58 insured women workers aged 16-64 for every

hundred insured men in 1939, against 37 for Great Britain as a whole, and in some parts of the county the proportion was even higher. At Hinckley it reached 86 to each hundred men. There was a shortage of women's work in the mining area round Coalville; but women from this area were able to travel to work in hosiery factories in Hinckley and Leicester. In a sense, it might almost be said that there was over-employment of women; large numbers of married women were employed, and as a result of extensive industrial work by women there was a tendency for men's wages in some Leicestershire trades to fall to a level lower than was usual in West Midland towns. There were great compensating advantages, particularly in the years of depression. The fact that families had two earned incomes, often earned in different industries, meant that the unemployment of one earner did not necessarily result in a big fall in the family's standard of life. The high proportion of married women among the workers in the main industries made it easier to meet seasonal or cyclical changes in demand without causing serious distress through unemployment. Falls in demand were met—particularly in hosiery—partly by short-time working, which affected all workers alike; there was a good deal of under-employment of this kind in Leicestershire industries before the war. In so far as falls in demand did result in visible unemployment Leicestershire benefited from the fact that numbers of the workers affected were married women, many of whom preferred not to work in industry continuously.

Visible unemployment was never great in Leicestershire. In the worst years of the slump, 1931 and 1932, unemployment in Leicestershire averaged 13·3 per cent, against 22·1 per cent for Great Britain and 20·6 per cent for England alone. The leading Leicestershire trades have relatively wide seasonal fluctuations; between 1934 and 1936 the difference between the average annual employment in Leicester city and the average employment at seasonal peaks was equivalent to about 2 per cent of the insured population. On the other hand, the trade cycle had far less effect before the war on Leicestershire than on other parts of the country; unemployment in Leicestershire was about 4 or 4½ per cent below the national average at the peaks of 1929 and 1937, but 9 per cent below it in 1932 and the last half of 1931.

The war has naturally resulted in an upheaval in the main Leicestershire industries, except coal; there has been a swift growth of engineering, in continuation of a rapid growth before the war, while the hosiery and boot and shoe trades have contracted and have been brought under concentration. These changes are likely to cause some dislocation immediately after the war; but there is no reason to think that they have caused any serious permanent loss of employment

to Leicestershire. The evidence, if anything, is the other way; Leicestershire may in some directions prove to have gained permanently from the war.

Leicestershire before the war contained about 30 per cent of the workers and provided a slightly higher proportion of the output in the British hosiery industry. Output and employment were increasing, though not so fast as in some other parts of the country; Lancashire in particular, with lower wage-rates, was tending to undercut Leicester manufacturers in some of the cheaper lines. It seems probable that after the war the rate of growth of output and employment in Leicestershire will be slower than before, partly because of this competition and partly because of foreign competition in sections of the home market which are specially important to Leicestershire. In spite of the tariff foreign competition was felt before the war in the markets for fancy outerwear and stockings; the stocking market is particularly important for Hinckley. Presumably this competition will reappear, even if not immediately after the war. A further possibility is that woven cloths possessing many of the distinctive qualities of knitted cloth may be produced in the West Riding. This possibility is scarcely likely to be realized in the immediate future, and its effects on employment in Leicestershire might be less serious than would appear at first sight, since cloths of this kind might continue to be made up in Leicestershire. On the whole, although output in Leicestershire may not rise as rapidly as before the war, there is no reason to think that either output or employment will drop below the pre-war level; they may well increase.

The chief problems of the Leicestershire hosiery industry seem likely to arise in the course of unscrambling the wartime controls. Concentrated firms are unanimous in wishing to regain their independence, preferably, in most cases, in their old premises. Once premises are cleared of Government stores and immigrant firms, most hosiery firms should be able to re-start operations well within six months. There are exceptions; and in any case there are bound to be difficulties and delays in clearing premises, as well as in re-equipping nucleus firms, whose machinery by the end of the war will need extensive repairs and replacement. It is clear that a transitional scheme will be needed before firms can be allowed their full freedom, and it is desirable that the opportunity of the transition should be taken to solve a number of long-term problems. There is little doubt that in some cases concentration has worked to the advantage of relatively inefficient firms. On the other hand, it is equally clear that for many firms concentration, standardization, and other wartime measures have lowered the cost of production in a number of directions. If a careful balance is struck between the advantages and

can be reorganized in the course of decontrol so as to retain the advantages, the efficiency of the Leicester hosiery industry and its competitive strength both at home and abroad may be left distinctly greater than before the war. Problems affecting labour—particularly relative wage-levels in different districts and the prevalence of short-time—will also need attention. In view of the individualism of Leicester manufacturers, and their natural suspicion of anything which might look like reorganization in the interests of the larger firms, rationalization of the industry can scarcely be easy. It is a good omen that the National Federation of Hosiery Manufacturers' Associations, in a report issued in March 1948, has specifically recognized its desirability.

The Leicestershire boot and shoe industry is in a distinctly weaker position than the industry in Northamptonshire. Leicestershire before the war supplied approximately half the children's shoes and two-fifths of the women's shoes made in Great Britain, but only about 5 per cent of the men's shoes. The leading area for the production of high-quality women's shoes was Norwich, and Leicestershire firms tended on the average to produce a rather cheaper quality. The market for women's and (to an even greater extent) children's shoes offers particularly great opportunities for cheap mass-production with automatic machinery and relatively unskilled labour, and accordingly it was in this market that competition from the growing shoe industry of the Rossendale Valley and from the Bata factories in this country was most severe before the war; there was also a large and increasing import of cheap women's shoes, principally from Czechoslovakia and Hungary, and a considerable import of more expensive types of shoe from Switzerland and (increasingly) the United States. Between 1923 and 1937 the number of boot and shoe operatives insured in the Leicester exchange area fell 12·8 per cent, against a fall of no more than 2·2 per cent in Great Britain as a whole. The fall in Leicester itself was offset by a much smaller decline in the county outside the city, so that the relative decline in Leicestershire as a whole was not so sharp. The Leicestershire boot and shoe industry is concerned only to a limited extent with the types of heavy Service footwear for which demand has increased during the war, though some Army boots are being made, and a quantity of shoes for the women's services. As a result it has been subject to a greater contraction and more concentration than the industry in Northamptonshire. It is liable to many of the same short-term problems as the hosiery industry, as well as to the same long-term dangers as the Northamptonshire boot and shoe industry; in addition, its own competitive position seems unlikely to be stronger after the war than it was before. There is no reason to expect any dramatic decline in the Leicestershire boot and shoe industry: but it seems

very possible that the same steady downward tendency of employment as before the war will reappear once immediate post-war demands are satisfied. During the war discussions have taken place between employers and workers in the boot and shoe industry dealing both with the short-term problems which will arise immediately after the war and with certain longer-term problems, including particularly the recruitment and training of labour. These discussions may lead to considerable improvements in the industry generally, and should be of advantage to Leicestershire among other areas; but they can scarcely make much difference to Leicestershire's position relatively to centres in other parts of the country.

The prospects of the Leicestershire coalfield appear to be excellent. Annual output in 1937 and 1938 was 2,900,000 tons. By 1943 output had risen to 4,550,000 tons, and employment had also increased. Costs in this field were well below the national average just before the war, and so were prices; output per worker employed and profits were well above the national average. There are considerable reserves. It seems very probable that the wartime increase in output will be maintained, and not improbable that employment will also be higher in future than before the war. Mechanization has practically reached its limit; in 1943 97 per cent of the coal mined in this district was cut by machine, and 94 per cent was mechanically conveyed below ground.

As a whole, the Leicestershire engineering firms seem likely to continue after the war the same prosperity as before. Between 1923 and 1937 the number of insured workers in general engineering in Great Britain fell by 4.2 per cent. In the Midlands there was an increase of 21.6 per cent, or 13,800 workers. Of this number the Leicester exchange area provided 5,690, an increase of 95 per cent on the number of workers insured at Leicester in 1923. Neither Coventry nor Birmingham showed a rate of increase as great as this; and it must be remembered in addition that there was a substantial increase in engineering in Leicestershire outside the city. The same rapid rate of development can scarcely be expected in future. At the same time, to put the case at its lowest, there is no reason to expect the trend to be reversed.

The firms established before the war in the two main engineering centres, Leicester itself and Loughborough, seem likely to maintain at least their pre-war level of output and employment. Two-thirds of the engineering output of Leicester itself consisted before the war of hosiery and boot and shoe machinery. In neither of these groups is there any danger of decline, and in the case of hosiery machine building, both at Leicester and at Loughborough, there is a possibility of permanent expansion. Before the war British hosiery machine

and America in both the home and export markets. This competition was based to a great extent on better organization in the American and German industries, standardization, and better sales methods, not on superior inventiveness. These are advantages which it should not be difficult to reduce. One large firm had plans ready just before the war for an attack on the market for flat frame machines, in which German firms were dominant, and there is a distinct possibility that this and other firms may be able to capture a decidedly larger share of the world market for hosiery machinery in future than in the past.

The position of the firms making boot and shoe machinery appears to be assured. The only important producers in Great Britain are the British United Shoe Machinery Company, which controls most of the market, and the Standard Engineering Company; both of these firms have their main works in Leicester. The British United Company has been able to establish its present dominating position as much through the efficiency and cheapness of its equipment and the excellence of its maintenance and other services as through the system of tied leases, which to a great extent prevents users of British United Machinery from using at the same time machinery made by other firms. Though it cannot in general be said that the British United Company has used its power either to slow up the growth of efficiency or to interfere with the development of particular firms, the tied lease system and the generally dominant position of the company do raise a number of difficult problems. One important question was raised in the years immediately before the war by the company's decision, following representations from both the employers and the trade unions in the boot and shoe industry, to stiffen the terms on which it would lease machinery to new entrants to the industry. However this and similar issues may be settled there is no reason to suppose that the general position of the British United Company will be seriously disturbed; and any disturbance would presumably take the form chiefly of competition from the other Leicester company. There is likely to be a big replacement demand for boot and shoe machinery, and when the replacement demand is satisfied the level of further demand should remain steady.

In the smaller branches of the engineering industry in Leicestershire—typewriters at Leicester, lifting machinery and electrical machinery at Loughborough, mining and quarrying machinery at Coalville—the chief firms are well established, and there seems no obvious reason to fear for the future. A possible exception is the small Leicester machine-tool industry; but even in this case the firms concerned are well established, and it is unlikely that any depression will be more than temporary.

have come in from other areas during the war, and several new plants have been built by the Government. Developments at Hinckley and Loughborough seem unlikely to have any great permanent importance. At Coalville firms which have come in from other areas have provided a considerable amount of new employment in engineering during the war; a good deal of this may remain permanently, and would represent a valuable element of diversity in the mining district. Leicester has some small immigrant firms and two large new works. The large works, which employ between them several thousands, may continue after the war under the same management and on the same type of light engineering work as at present; there is a possibility that they might be used partly to produce a type of machinery supplied before the war mainly from Germany. If this possibility should fail, it has been suggested locally that these works might be used to house groups of hosiery or boot and shoe firms whose present premises are unsatisfactory; there is a considerable number of old-fashioned and badly sited works in the centre of Leicester which need to be replaced. Inquiries among hosiery firms showed that a number would be willing to consider a move of this kind.

It is clear that there is no risk of depression in Leicestershire, though some care may perhaps be needed to ensure that sufficient work is available within reach of one or two boot and shoe districts which may be affected by the gradual fall in employment in this industry. It may even be tentatively asked whether, if there is more light engineering in future at Leicester itself, there might not be some over-employment of women, in the sense of a higher proportion of women employed in industry than is socially desirable; against this, it should be remembered that the percentage of women in engineering is unlikely to be high.

At the same time, it is equally clear that Leicestershire has a variety of industrial problems which will call for attention. Apart from the need to ensure that any fall in boot and shoe employment is balanced by an expansion in other industries in all parts of the county, there is the problem of short-term dislocation in the boot and shoe and hosiery industries, the possibility of difficulties in the machine-tool industry, and the desirability of making long-term improvements in the organization of the boot and shoe and hosiery industries, of hosiery machine building, and possibly of boot and shoe machinery manufacturing. There are also a number of industrial problems in connexion with town-planning—the desirability of limiting the size of Leicester itself and of directing development so far as possible away from the main conurbation, the possibility of moving some hosiery and boot and shoe firms to new quarters, and the need to keep a close connexion between the movements of industry and population, in view particularly of the dependence of

Leicester industry on married women, who in the past have worked near their homes in the centre of the city. Most of these town and country planning problems should not be difficult to solve by the ordinary application of planning control and by efficiently co-ordinated schemes of housing and general development; they are mentioned merely to emphasize the need to take them into account.

THE INDUSTRIAL AREAS OF NOTTINGHAMSHIRE, DERBYSHIRE, AND LINCOLNSHIRE

(a) The Industrial Structure of the Three Counties

The central industrial area of Nottinghamshire and Derbyshire, corresponding approximately to the area of the Nottinghamshire and Derbyshire coalfields, with a small extension southwards, lies across the border of the two counties from Long Eaton on the border of Leicestershire up to Sheffield and Maltby in South Yorkshire. In both a geographical and an industrial sense this area forms a bridge between the textile, light engineering, and boot and shoe manufacturing district of the southern part of the East Midlands and the South Yorkshire district of coal mining and heavy industry. The southern parts of Nottinghamshire and Derbyshire, which largely share the industrial character of the Southern part of the East Midlands, are linked to South Yorkshire by a continuous belt of mining and industrial activity. Hosiery and light engineering provide a connexion with the southern part of the East Midlands; foundries and other heavy metal-working industries provide a link with the Sheffield area, and the coalfield is continuous with the coalfield of South Yorkshire. In the West Midlands no such bridge exists; the West Midland coalfields and the metal-working area round Birmingham, Coventry, and the Black Country are separated from the industrial area of Lancashire and Cheshire partly by open country and partly by more or less isolated industrial areas of which the most important, the Stoke district, is essentially different in character alike from Lancashire and from the main West Midland conurbation.

It is not merely that the central industrial area of Nottinghamshire and Derbyshire, taken as a whole, provides a link between the Midlands and South Yorkshire; within this area itself there is a gradual change in character from south to north. The southern part of the area, round the cities of Nottingham and Derby, is concerned principally with engineering and textiles. In Derby the dominant industry is engineering, with related activities; 26 per cent of the occupied population of Derby in 1931 were engaged in metal-working trades. The leading engineering concerns before the war were the L.M.S. locomotive works and the Rolls-Royce plant. There were in addition a wide variety of minor engineering industries, as well as

a considerable amount of employment in foundries and some electrical trades, notably cables. Some 15 per cent of the occupied population in 1931 were engaged in the textile and clothing industries, the largest individual groups being hosiery, rayon, and the group 'tapes, small-wares, and elastic web'. In Nottingham the textile and clothing trades employed about the same proportion of the occupied population—26 per cent—as the metal-working trades in Derby, while the proportion engaged in metal-working was small, about $7\frac{1}{2}$ per cent. Cycles (Raleigh) and hosiery and lace machinery were the chief engineering groups; there was a variety of smaller light engineering industries, notably typewriters. Hosiery was by far the most important section of the textile group, followed by lace, the finishing sections of the textile trades, a large group of clothing trades engaged in making up dresses, overalls, children's clothes, and underwear, and a small cotton industry engaged largely in doubling yarn for the hosiery trade. Tobacco (Players) and coal mining are other important Nottingham industries, and substantial numbers of Nottingham workers are employed at the manufacturing works of Boots Pure Drug Co., Ltd., and by Ericsson Telephones, Ltd., both just over the city boundary in Beeston. The general course of development between 1923 and 1937 in the Nottingham exchange area of the Ministry of Labour appears from Table 79; the chemicals group would include workers at the Boots factory. There was a net increase of about 4,000 in the number of workers attached to the textile and clothing trades, after allowing for heavy falls in lace and cotton, and other increases occurred in the motor and cycle, tobacco, chemicals, and printing groups, as well as in building and the service trades; there were sharp falls in general engineering and coal mining. On balance, the number of insured workers in Nottingham increased rather faster than the national average, by $24\frac{1}{2}$ per cent as against 22 per cent.

The smaller towns lying between the southern fringes of Nottingham and Derby share the general characteristics of the two main centres, with their own local variations. Apart from the Boots and Ericsson works Beeston has a considerable textile industry (notably lace and elastic webbing), and a substantial number of Beeston people work either inside or outside the district in engineering and related trades. Long Eaton is principally a textile centre, chiefly for lace, with a small though locally important furniture industry. The large rayon works of British Celanese Ltd., are at Spondon, near Derby.

North of Nottingham and Derby themselves, up to the Yorkshire border, the dominant industry of the central industrial area of Nottinghamshire and Derbyshire is mining; in 1931 some 39 per cent of the occupied population of this area actually in work were returned

TABLE 78

NOTTINGHAMSHIRE, DERBYSHIRE, AND LINCOLNSHIRE
 PROPORTION OF ALL OCCUPIED PERSONS (EXCLUDING THOSE OUT OF WORK) IN EACH INDUSTRY.
 Census of 1931. Proportion per 1,000

	Derby- Notting- ham area	Nottingham and Derby Coalfield		Swadlin- cote area	Matlock and Buxton area	Glossop and New Mills district	E. Notts	Lincoln- shire (except Grimsby)	England and Wales
		Main area	NE.						
<i>Agriculture, Fishing</i>	21	45	40	103	140	62	167	279	60
<i>Mining, Treatment of Non-metalliferous Mining Products</i>	34	342	601	254	106	66	26	9	59
<i>Manufacturing</i>	468	279	68	294	197	501	313	206	323
Bricks, Pottery, Glass	5	11	3	204	7	1	6	5	11
Chemicals	11	4	2	2	4	3	8	6	12
Metals, Engineering	131	86	13	27	28	40	171	120	106
Textiles	175	116	18	6	73	358	6	3	58
Clothing	46	19	8	12	37	23	35	13	47
Food, Drink, Tobacco	42	17	13	25	26	17	49	30	84
Wood, Furniture, etc.	18	10	6	5	7	7	13	13	14
Paper, Printing, etc.	30	11	3	5	6	47	5	9	25
Misc. manuf. (inc. leather)	10	5	2	8	9	5	20	7	18
<i>Building</i>	45	35	22	33	49	40	36	40	51
<i>Services</i>	432	299	269	316	508	331	458	466	507
Gas, Water, Electricity	12	6	3	4	10	13	7	6	13
Transport, Communications	77	46	45	39	72	49	80	66	69
Commerce, Finance	160	102	85	90	125	108	123	141	166
Public Administration, Defence	65	49	41	67	69	54	73	86	88
Professions	24	16	12	20	38	21	23	24	34
Entertainments, Sport	7	5	5	1	5	4	4	7	9
Hotels, Personal Service	87	75	78	95	189	82	148	136	135

*Total Occupied Population
(including out of work)*

Males	186,788	187,004	43,730	16,187	24,982	18,691	20,494	181,311	13,247,333
Females	89,718	57,172	6,997	3,991	10,019	9,315	6,451	48,496	5,606,043
Total	276,506	244,776	50,727	20,178	35,001	28,006	26,945	229,807	18,853,376
Percentage of Total Occupied Population out of work	10.5	10.2	9.9	7.5	6.8	13.0	9.9	10.4	11.5

AREAS INCLUDED IN EACH GROUP

Derby-Nottingham Area

C.B.s: Derby, Nottingham.

U.D.s: West Bridgford, Carlton, Beeston, Long Eaton, Alvaston and Boulton.

R.D.s: Leake, Bingham, Stapleford, Shardlow.

Coalfield (Main Area)

U.D.s and M.B.s: Ilkeston, Ripley, Heanor, Alfreton, Belper, Heage, Clay Cross, Chesterfield, Braughton and Walton, Dronfield, Eastwood, Mansfield, Mansfield Woodhouse, Hucknall, Arnold, Huthwaite, Sutton-in-Ashfield, Kirkby-in-Ashfield.

R.D.s: Basford, Southwell, Skegby, Belper, Chesterfield, Norton.

Coalfield (North-east)

U.D.s: Worksop, Warsop, Bolsover.

R.D.s: Worksop, Blackwell, Clowne.

Swadlincote Area

U.D.: Swadlincote District.

R.D.s: Hartshorne and Seals, Repton.

Matlock and Buxton Area

U.D.s and M.B.s: Bakewell, North Darley, South Darley, Matlocks, Wirksworth, Bonsall, Ashbourne, Baslow and Buxton.

R.D.s: Sudbury, Ashbourne, Bakewell.

Glossop and New Mills District

M.B.: Glossop.

R.D.s: Hayfield, Glossop Dale, Chapel-en-le-Frith.

East Nottinghamshire

M.B.s: Newark, East Retford.

R.D.s: Newark, East Retford, Misterton.

All areas as defined at the date of the Census.

TABLE 79—NOTTINGHAM

ESTIMATED NUMBER OF INSURED PERSONS, AGED 16-64,
AT JULY 1923 AND JULY 1937

Industry	Estimated No. of insured persons aged 16-64		Increase (+) or Decrease (-) 1923-37		No. in each industry as % of total insured persons at July 1937	
	July 1923	July 1937	No.	% of July 1923	Nottingham	Great Britain
Distributive Trades	9,820	16,600	+ 6,780	+ 69	13.7	15.2
Hosiery	8,020	12,220	+ 4,200	+ 52	10.1	0.9
Building	4,660	8,990	+ 4,330	+ 93	7.4	7.7
Textile Bleaching, Print- ing, Dyeing, etc.	5,110	7,020	+ 1,910	+ 37	5.8	0.7
Tobacco	4,330	6,590	+ 2,260	+ 52	5.4	0.3
Shirts, Collars, Under- clothing, etc.	3,510	5,940	+ 2,430	+ 69	4.9	0.6
Motor Vehicles, Cycles, and Aircraft, etc.	3,150	5,790	+ 2,640	+ 84	4.8	2.6
Lace	9,420	5,650	- 3,770	- 40	4.7	0.1
Chemicals (including Explosives, Oil, Paint, Soap, Ink, etc.)	3,320	5,360	+ 2,040	+ 61	4.4	1.7
General Engineering, etc. Printing, Publishing, and Bookbinding	6,410	4,370	- 2,040	- 32	3.6	4.6
Coal Mining	3,070	3,750	+ 680	+ 22	3.1	2.1
Hotel, Boarding-House, etc., Service	9,080	3,690	- 5,340	- 59	3.0	6.6
Gas, Water, and Elec- tricity Supply	1,580	2,080	+ 500	+ 32	1.7	3.3
Tramway and Omnibus Service	2,480	2,050	- 430	- 17	1.7	1.6
Drink Industries	780	1,700	+ 920	+ 118	1.4	1.5
Road Transport, other than Tramway and Omnibus Service	800	1,560	+ 760	+ 95	1.3	0.9
Cotton	900	1,540	+ 640	+ 71	1.2	1.5
Furniture-making, Up- holstering, etc.	2,240	1,430	- 810	- 36	1.2	3.1
All other Industries and Services	1,420	1,420	—	—	1.2	1.1
	17,400	23,530	+ 6,130	+ 35	19.4	43.9
Total, all Industries and Services	97,450	121,280	+ 23,830	+ 24	100.0	100.0

From the evidence of the Ministry of Labour to the Barlow Commission.
Statistics relate to the Nottingham exchange area.

industries in this area, particularly towards the southern end. A belt of heavy metal industries runs up from Ilkeston to the Yorkshire border, roughly along the line of the rivers Erewash and Rother;

foundry work (the Stanton Ironworks at Ilkeston, the Butterley Ironworks at Ripley, and the Staveley Coal and Iron Company are the leading firms), heavy engineering, and pig-iron manufacturing are the main groups. The hosiery and lace industries are well represented in the south and centre of the coalfield. In the north of the Derbyshire coalfield, where textiles are relatively less important, the Census returns show a fair amount of employment in the small tool and cutlery trades characteristic of Sheffield. As might be expected in an area of this kind, there is a fair amount of employment in coke ovens and other by-product works; and there are a number of minor industries. Taken individually, the biggest towns of the coalfield, Sutton, Mansfield, Ilkeston, and Chesterfield, all have a considerable measure of industrial balance—hosiery as well as mining at Sutton, cotton, tin boxes, boots and shoes, engineering and hosiery at Mansfield; foundries, pig-iron manufacturing, and textiles at Ilkeston; and iron and steel, engineering, cotton, cardboard boxes, and pottery at Chesterfield. The one large area where pre-war figures show an acute lack of balance is the northern part of the Nottinghamshire coalfield round Warsop and Worksop, with some of the neighbouring parts of Derbyshire. Some 60 per cent of the occupied population of this area actually in work in 1931 were engaged in mining and the treatment of mining products, against 7 per cent in manufacturing industries and 4 per cent in agriculture. The proportion engaged in mining in the neighbouring parts of the West Riding (Kiveton Park Rural District and Maltby and Tickhill Urban Districts) was very similar.¹

Outside the central industrial district Nottinghamshire and Derbyshire include four main industrial zones. To the south-west of Derby the district round Swadlincote forms part of the South Derbyshire and Leicestershire coalfield; apart from coal mining the main industry of this area is pottery. The the north-west of Derby are two zones, the Glossop and New Mills district, which forms part of the Lancashire cotton area, and the relatively thinly populated district round Buxton, Bakewell, Matlock, and Ashbourne. Lead mining, which was once important in this area, has practically ceased; but there remains a considerable amount of quarrying, principally for limestone. There is an important tourist industry, particularly at Buxton, and a considerable amount of employment in the textile and clothing trades. The textile trades include an interesting survival of the cotton industry; the Derwent Valley was one of the earliest centres of cotton manufacture, and a number of solidly established small firms still remain.

¹ It should be stressed that these statistics refer to resident population; that is, account has been taken of the fact that some people in these areas work in industries elsewhere.

The remaining district of Nottinghamshire and Derbyshire, the eastern part of Nottinghamshire round Newark and Retford, can best be regarded as part of an economic region which also covers most of Lincolnshire. The general characteristics of Lincolnshire industry, apart from Grimsby and the iron and steel manufacturing area to the north, have already been described—agriculture, with substantial and varied engineering and other metal-working industries in the towns, a tourist industry along the coast, and a variety of food-processing industries, breweries, and the like, of the kind naturally found in a largely agricultural area. The district round Newark and Retford represents a natural extension of this area; it is largely agricultural, with a substantial amount of engineering and foundry work in its two main towns—Gainsborough, just over the Lincolnshire border, draws largely on this district for workers—and with a good deal of employment in food and drink industries.

(b) The Problems of Lincolnshire and East Nottinghamshire

Apart from Grimsby, which has been considered elsewhere, Lincolnshire and the eastern part of Nottinghamshire seem likely after the war to present four main economic problems. One of these, the future of agriculture and of industries directly related to it, lies outside the scope of the present report. It should be possible to bring about a considerable development of existing industries such as fruit and vegetable canning, and there may be possibilities of expansion in other directions—a wartime development in flax manufacturing is one case in point. But it is impossible to reach any definite conclusion on these possibilities except in conjunction with a review of the future development of agriculture. A second problem which it has not been possible to consider in detail is the future of the tourist industry. There is little doubt that an expansion is likely, and that it may raise considerable problems of both physical and economic planning; these problems require further investigation.

The third main problem of this area is the future of the iron and steel manufacturing area around Scunthorpe. Figures have already been quoted to illustrate the rise in production in the Lincolnshire iron and steel industry since 1913. Rising production was accompanied by rapidly rising population; the population of Scunthorpe Municipal Borough practically doubled between 1911 and the end of 1936, and increased by a further 10 per cent between the end of 1936 and the middle of 1938. Production has naturally been at a high level during the war, and there has been a considerable further immigration, though possibly not more than might have been expected in a period of prosperity of similar length in peace. There is no reason to suppose that the long-term trends which showed themselves before the war will be reversed for several decades to

come. The exhaustion of the most accessible part of the iron-ore deposits on which the expansion of Scunthorpe has been based will no doubt eventually bring the expansion to an end; for the moment there is every reason to expect that it will continue.

The continuance of long-term expansion need not, however, imply that all difficulties will be avoided. Unemployment at Scunthorpe before the war was very low in peak years of the trade cycle—4·2 per cent in 1929 and 2·9 per cent in 1937—but rose sharply during the slump of the 'thirties, as might be expected in an area of heavy industry; the monthly average for 1932 was 25·7 per cent. If cyclical slumps are allowed to recur this experience would presumably be repeated. This is a general problem of the trade cycle; there are also more specifically local issues. Over 75 per cent of the male workers in Scunthorpe are employed in the iron and steel industry, and in peace-time there is little paid employment of any kind for women; in 1931 women represented 14½ per cent of the occupied population of Scunthorpe, as against 30 per cent in England and Wales as a whole. New light industries could be developed in Scunthorpe, and, while new industries can scarcely be expected to appear on a great enough scale to put an end to the district's basic dependence on iron and steel, they would serve a valuable social purpose merely by widening the choice of employment open to men and women alike. In addition to this mainly economic problem Scunthorpe has considerable problems of physical development; the town is relatively new and still requires a number of the normal facilities of a centre of its size, including a new technical college and a town hall.

The devastation of land through iron-ore quarrying presents a very much smaller problem in the Scunthorpe district than in Northamptonshire, though one which is by no means negligible. The area which may ultimately be affected is much smaller, the land overlying the ore deposits is largely of poor quality, and there is reason to think that mining, which should produce relatively little disturbance to the surface, will have to be extensively used in place of quarrying in the near future. There is nevertheless a definite problem of loss of amenity which requires attention. The same problem arises in South Lincolnshire, where in addition the quality of the land devastated is frequently higher.

The Lincolnshire and East Nottinghamshire engineering centres, including Lincoln itself, have a problem in some ways not unlike that of Scunthorpe. In some directions, particularly the manufacture of farm machinery, there should be considerable possibilities of expansion, and in general the products of these towns should have a good market after the war. Ball and roller bearings (if Newark is counted in with the Lincolnshire towns), gas and oil engines, motor brakes and radiators, cranes, excavating machinery, steam rollers,

and agricultural machinery make up a variety of products great enough to be a reasonably good guarantee of steady or rising employment in the engineering towns as a group, so long at least as employment remains at a high level in the country as a whole. If cyclical slumps recur they are likely to suffer even more than Scunthorpe; in the middle 'thirties unemployment in several of them rose well over 30 per cent. Lincoln's experience was typical; from 10·7 per cent in 1929 unemployment¹ rose to 29·1 per cent in 1932, and then fell back by 1937 to 8·5 per cent, rather below the national level. While the group as a whole should be prosperous, apart from the trade cycle, one or two towns may find themselves in more persistent difficulties for a time after the war. Each town is specialized on one or two products, or on a closely related group, and it is not at all improbable that in the general dislocation of the engineering industry after the war the markets served by one or other of them will be lost at least for a time. This happened to Grantham after the last war, and may happen there again; new developments during the war have tended to emphasize Grantham's character as a specialized engineering centre.

(c) The Industries of the Central Industrial Area

The prospects for the main industries of the central industrial area of Nottinghamshire and Derbyshire appear on the whole to be good. The combined output of the North Derby and Nottinghamshire coal-fields was 29·3 million tons in 1913, 29·8 million tons in 1924, 28·9 millions in 1929, and 30·2 millions in 1937. As in other fields, stable output was accompanied by increasing mechanization and falling employment; 119,000 workers were employed in 1924, 106,000 in 1929, and 88,000 in 1937. Immediately before the war 88 per cent of the coal raised in North Derbyshire was cut mechanically and 74 per cent mechanically conveyed below ground, the corresponding figures for Nottinghamshire being 70 per cent and 82 per cent. During the war the first years of output of the two fields increased; by 1942 it reached 32·4 million tons, with more mechanization and about the same level of employment as before the war. Towards the end of 1942 a beginning was made with open-cast mining. It seems probable that the wartime increase in output will be permanently maintained, and therefore (seeing how far mechanization has already gone) that there is little danger of a serious fall in employment. It is even suggested that, if demand cannot be spread over the whole year as evenly as during the war, there may be a shortage of labour at seasonal peaks.

The textile and clothing industries—hosiery, lace, the making-up trades, the tape, small-wares, and elastic webbing group, and various

¹ Monthly average.

ancillary industries, including the finishing trades and cardboard box manufacturing—seem likely to increase their employment, though possibly not very rapidly. Output and employment in the hosiery industry were growing before the war, and seem likely to go on growing, though not so fast. In the less important lace trade, in which the Nottingham district produced between 70 per cent and 75 per cent of the pre-war output, employment fell heavily after the last war. Towards the end of the 'thirties it began to show more stability, and there is some reason to hope that any further fall may be prevented, and that there may even be a slight rise. Which of these things will happen depends on the trend of fashion, and is therefore impossible to predict with any accuracy. At the same time it has to be borne in mind that if fashions changed to the disadvantage of the lace industry one result would almost certainly be to benefit the hosiery industry, and possibly the Nottingham making-up trade—and, of course, vice versa. In addition to lace and hosiery there are possibilities of development in some minor textile trades, notably (as a result of technical developments) in elastic webbing. The Nottinghamshire and Derbyshire textile trades are faced with short-term problems very similar to those of the Leicestershire hosiery industry; there is a similar possibility of using wartime developments, in the lace and hosiery trades alike, as a basis for a permanent improvement in efficiency. There is also the same desire of firms to regain their own identity and return to their normal lines of production.

The future of the making-up trade depends largely on fashion. The changes which took place after the last war—a fall in the demand for blouses, and a rise in the demand for cheap dresses, overalls, children's wear, and a number of other lines—were on balance favourable. Together with the rise in the standard of living they resulted in a rapid growth of employment. In Great Britain as a whole the number of insured workers in the group 'shirts, collars, underclothing, etc.' rose 55 per cent between 1923 and 1937; at Nottingham the increase was 69 per cent. In view of the close connexion between rising standards of living and the demand for clothing it is safe to say that the total demand for clothing will continue to increase after the war; and, if this does not benefit the Nottingham making-up trade to the same extent as before the war, the reason is most likely to be a change in fashions which would add to employment in the hosiery industry as much as it took away from making-up. A number of clothing firms have come into the Nottingham district during the war, and several of these may remain permanently.

The prospects for the rayon industry, represented by the British Celanese works at Spondon, should be excellent. It is known that

British Celanese is preparing to take full advantage of the big advances in knowledge of rayon yarn and staple fibre manufacture which have taken place during the war, and to branch out in certain new directions, including the manufacture of synthetic rubber. Employment at this works has in the past been irregular; it is reasonable to hope that the irregularity was due to the difficulties of an experimental period in a new industry, which should now have been overcome. The Spondon works are engaged in weaving and making-up as well as in filament production.

Prospects are also reasonably good in the engineering and other metal-working trades. The group of trades in and around Nottingham—chiefly cycles, telephones, and textile machine manufacturing—should provide at least as much employment as before the war, and very possibly more. The same scope for expansion should be open to Nottingham hosiery machine building firms as to firms in Leicestershire; if firms in Leicestershire can contemplate the capture of both home and export markets from American and German firms there is no obvious reason why Nottingham firms should not do the same, and by the same methods—standardization, better sales methods, and the rest. If the effort is not made, and if the rapid growth in the demand for hosiery which occurred before the war, comes to an end, while competition from foreign machine builders goes on, Nottingham machine makers may face a severe slump; but there is no reason why this should be allowed to happen.

The future of the Derby group of engineering concerns is less certain, principally because of doubts over the future of the Rolls-Royce works. Rolls-Royce, Ltd. dispersed part of its Derby plant early in the war, and has also been managing agency works elsewhere. It is not known whether the company will wish to keep on any of these works after the war as alternatives to its Derby works, or whether the demand for aircraft engines and luxury cars will be great enough to enable it to keep up its pre-war level of employment and output. Surveys in other parts of the country show that in at least one case—Hillington, near Glasgow—very strong pressure is likely to be exerted to ensure that a large and efficient Rolls-Royce agency factory is kept in use in one way or another after the war. There is less doubt over the future of the other main Derby engineering concern, the L.M.S. works. A big replacement demand for railway rolling-stock is inevitable for some years after the war. In view of road competition it may well be asked whether in the long run the pre-war volume of output will be needed; but the balance of considerations suggests that if the demand for rolling-stock does decline it is not in this district that the fall is likely to be felt most. The smaller engineering and related works of the Derby district serve a wide variety of specialized markets—sugar milling machinery,

refrigerators, lawn mowers, electric cables, and colliery gear are some examples—and in the aggregate the employment which they provide should not be less than before the war. In certain directions, notably power station boilers and plant and the making of presses and press machinery, there have been considerable recent developments, and there are possibilities of further expansion in both home and export markets which should help to offset any permanent decline in motor and aircraft engine manufacturing.

The outlook for the belt of heavy industry from Ilkeston to the Yorkshire border is on the whole good, since the leading metal-working industries of this area, particularly those engaged in foundry and constructional engineering work, should benefit considerably from the post-war building programme. In the country as a whole employment at foundries increased by 48 per cent between 1923 and 1937, and 23 per cent between 1929 and 1937, and East Midland firms such as the Stanton Ironworks took their full share in this growth. A number of works in this area have developed new lines during the war, and some additions to capacity have been made; but it is not clear how far these changes are likely to be of value after the war.

There appears to be little danger of depression among the more important miscellaneous manufacturing industries of the central industrial area of Nottinghamshire and Derbyshire. A number of these—Players and Boots are outstanding examples—are located in this area largely because of historical accident, not because the area has special advantages for them; but the chief firms are solidly established, and there is no reason to expect either a decline in employment or any significant change in location.

(d) The Central Industrial Area—the General Prospect

The general picture in the central industrial area of Nottinghamshire and Derbyshire is of expansion or, at worst, stability; at the very least, there is no reason to expect that unemployment will be higher than before the war. Unemployment at Derby in the last ten years before the war was about the level of London and the South-east, and unemployment at Nottingham, though rather higher than at Derby, was well below the national level and rose relatively little during the slump of the early 'thirties, from 9·4 per cent in 1929 to 14·6 per cent in 1932. There is no reason to expect serious economic difficulties in the area around the two cities, unless the contraction of employment in aircraft engine and motor manufacturing at Derby is greater than appears probable; the main problems are more likely to be those of physical planning. In this connexion there is one wartime development which may prove particularly important. Hosiery firms were already moving out of the heavily built-up area

of Nottingham before the war, looking for cheap sites with good facilities and room for expansion, and lace firms were moving out well before the last war, particularly to Long Eaton. A munition works which has been built during the war some way south of Nottingham might be developed after the war as a trading estate designed to relieve congestion in Nottingham itself. There is a demand both for building land equipped with good facilities and for factories which could be rented by the smaller firms, and either lace or hosiery firms, or both, would probably be willing to move if the right inducements were offered.

Farther north in the coalfield there is more danger of unemployment. The slump of the 'thirties was felt severely in this area; unemployment at Chesterfield was 31 per cent in 1932, as against 13 per cent in 1937, and the corresponding figures for Mansfield were 30 per cent and 9 per cent. There was in addition a certain element of persistent unemployment, as is hardly surprising in view of the fall in employment in coal mining after 1924. This unemployment was far less severe than the unemployment experienced in mining areas such as South Wales or the North-east Coast; but it was not negligible. Three small coalfield towns appeared in the Ministry of Labour's 1937 list of severely depressed areas, and several others were affected to a smaller extent. While employment in the coalfield (including employment in manufacturing and service industries) should not be less and may well be greater than before the war, it is possible that some patches of persistent unemployment may reappear and call for special remedies.

This, however, is not the main problem of the coalfield. The chief problem arises out of the tendency for mining to move eastwards, in the same way as in the West Riding. The degree of industrial balance given to the western and southern part of the coalfield by the textile and heavy metal-working industries is obvious enough from Table 78, and so also is the lack of balance in the North-east of the field. It is in the north-east that development has been proceeding in recent years, and is likely to continue in future. There are few or no manufacturing industries in the new field, and there is little reason to suppose that the existing industries of the western and southern part of the field will develop to the north-east without special encouragement. The agricultural resources of the area are limited, and provide little basis for processing industries. There are few possibilities of developing extractive industries other than coal mining, though some oil-boring has been carried out in recent years, particularly round Eakring, east of Mansfield. The new mines are relatively remote from towns, and there is not the same possibility as in the older parts of the field of travelling in to work in centres such as Nottingham, Mansfield, Sutton, or Chesterfield. While the

lack of balance in the newly developing area may not result in unemployment, since the cause of the lack of balance is precisely the tendency for employment in coal mining in this area to increase, it may well result in an undesirable restriction in the choice of employment for men and a definite shortage of paid work for women. The last point is obvious enough from Table 78: 23 per cent of the occupied population in 1931 in the main part of the coalfield were women, as against 14 per cent in the North-east. There are in addition important problems of physical planning—the control of speculative development and the preservation of good agricultural land, which is not plentiful in this area, of amenities, particularly in Sherwood Forest, and of the open road route to the North—as well as the problem of arranging a smooth transfer of workers from the older mining areas.

Steps to deal with these problems were already being taken before the war. A number of towns on the Western fringe of the mining area had been scheduled by the Ministry of Labour for assistance under labour transference schemes. The Nottinghamshire County Council had begun experimental work on the design of new small towns to be associated with coal mining, but to be equipped with other industries as well; it is understood that a considerable amount of information on future trends in mining has been collected in co-operation with coal-owners. A good deal of harm had already been done before the war through unplanned development, though some of the new settlements built by the colliery companies themselves were well designed; one of the largest local estates, Rufford Abbey, was sold for piecemeal development shortly before the war.

The war has opened up certain new possibilities for the establishment of manufacturing industries in or near the north-eastern part of the coalfield. One or two of the Nottinghamshire aerodromes might be used as centres for new industrial towns, and there is a large new munition factory in the north of the county which might be developed as an industrial centre to which workers from the nearer parts of the coalfield could travel. It was suggested in an earlier chapter that the use of this factory might be considered in connexion with the redevelopment of Sheffield and Rotherham; the action to be taken here would clearly need to be correlated with the future use to be made of the other new munition factory in the neighbourhood of Rotherham to which reference was also made in the discussion of South Yorkshire.

(e) The Minor Industrial Areas

On the three remaining industrial areas of Nottinghamshire and Derbyshire there is little to be said. The Glossop and New Mills district was covered, in general terms, in dealing with Lancashire. The Swadlincote district and the area round Buxton have not been

covered by the Survey. An inquiry in the Matlock and Bakewell district suggested the probability of a substantial amount of middle-class housing development in the areas nearest to Sheffield, and the possibility that there might be a slight permanent addition to employment in the Matlock and Bakewell area as a whole as a result of the dispersal of industries and offices from more vulnerable districts (principally Sheffield) during the war. The hill districts of Derbyshire, as a whole, contributed in 1939 nearly a quarter of the national output of 20 million tons of limestone, and extraction at this rate, together with the careless execution of related processes, was doing serious damage to the amenities of a number of areas. The precise action required in this case has not been investigated: in general, the parts of Derbyshire west and south-west of the central industrial area were not covered in detail for the Nuffield Survey.

THE EAST MIDLANDS AS A WHOLE

From a consideration of the East Midlands as a whole two points stand out particularly clearly. One is the variety of problems calling for careful planning even in a generally prosperous area. There are short-term problems such as the dislocation caused by the war in concentrated industries, the need to preserve permanently the improvements in efficiency which have occurred in some of these industries during the war, or the possibility of moving hosiery, lace, or boot and shoe firms into some of the large munition works which may otherwise be disused; these problems either cannot be dealt with at all or will become unnecessarily difficult to solve if action is not taken immediately after the war, before firms have re-started normal production and settled back into their old premises. Over a longer period there are general problems of the trade cycle, particularly as they affect Scunthorpe, the engineering centres of Lincolnshire and East Nottinghamshire, or the Derbyshire and Nottinghamshire coalfield; and it is not impossible that the coalfield may again have patches of persistent unemployment. Over a longer period still there are the planning problems raised by the eastward shift of coal mining or the development of iron-ore working, the employment problems arising out of trends in the Northamptonshire boot and shoe industry, or the general problem of industrial balance (regarded from a social point of view, not purely from the point of view of the volume of employment) as it presents itself in Northamptonshire or (in an opposite and much milder form) in Leicestershire, as well as in the developing mining districts; or, again, there is the problem of the population in Northamptonshire.

The other point which stands out is the importance both of regional planning and of the integration of the plan for this region with plans for the regions round it. The fact that several of the leading industries

(particularly coal, hosiery, and boots and shoes) lie across county boundaries makes a plan covering the whole region essential. The need to plan the development of the area between Retford and Doncaster in relation to future developments both in North Nottinghamshire and in the Sheffield area, and the general continuity between the coalfields and industrial districts of Derbyshire, Nottinghamshire, and South Yorkshire emphasize the importance of integrating developments in the East Midlands with those in neighbouring counties. There are several further inter-regional problems affecting other districts. Grimsby can be regarded alternatively as an East Midland town or—as here—as one of a group of Humber ports whose hinterland is as much the West Riding (and to a smaller extent Lancashire) as the East Midland counties. At the other end of the region the south-western part of Northamptonshire needs to be planned jointly with parts of Oxfordshire, Buckinghamshire, and Warwickshire. In the centre of the East Midlands, the possibility of a permanent transfer of certain engineering works into Leicestershire, and in general the possibility of an expansion in the Leicestershire engineering industries, has to be considered in relation to the post-war development of Coventry and Birmingham.

CHAPTER XI

STOKE-ON-TRENT AND DISTRICT¹

THE PRE-WAR POSITION

THE Stoke district depended before the war principally on two industries. One was the manufacture of pottery and of various forms of earthenware, including bricks and tiles; 70,000 of the 164,000 insured workers in the district in 1939, or about 43 per cent, were engaged in these industries. The other was coal mining, with 25,000 insured workers in 1939, about 15 per cent of the total. There were in addition a number of minor industries—iron and steel manufacturing, aluminium rolling, rubber, clothing, one long established cotton-spinning firm, and a variety of minor engineering trades—each employing a few hundreds or thousands; but coal mining and the pottery group were far and away the most important.

The statistics for Stoke-on-Trent supplied to the Barlow Commission by the Ministry of Labour give a fair impression of the course of development in the whole Stoke district in the fifteen years before the war. The total insured population increased at about the same rate as in the country as a whole (21 per cent against 22 per cent), as a result of a rise of 15 per cent in the number of workers in the pottery and earthenware groups and considerably greater rises in the service trades and some manufacturing industries, including particularly rubber and aluminium; these increases were partially offset by a fall in the number engaged in coal mining and iron and steel. Taken by themselves, these facts give an impression which is too favourable. Employment in the Stoke district did not grow fast enough to absorb the whole increase in the working population; there was severe cyclical unemployment, and even towards the peak of the boom in 1937 there was a surplus of between 15,000 and 20,000 unemployed (something over 10 per cent of the insured population) who would have been in work if unemployment had not exceeded the level of London and the South-east. Unemployment fell most heavily on adult men. The chief falls in employment shown by Table 80 occurred in industries which employ predominantly men, and in the pottery industry, which showed the largest increase in employment, the

¹ The Stoke region has been taken here to include Stoke-on-Trent C.B., Newcastle-under-Lyme M.B., and Kidsgrove U.D. Some reference has also been made to Alsager and Biddulph Urban Districts and to Stone, Newcastle, and Cheadle Rural Districts. In terms of employment exchange areas, the statistics used refer either to the exchanges within Stoke-on-Trent C.B. (Table 80), or to the areas covered by the local offices at Biddulph, Burslem, Chesterfield, Hanley, Kidsgrove, Longton, Newcastle, Stoke, and Stone—the area to which the statistics quoted in the first paragraph refer.

TABLE 80
STOKE-ON-TRENT

Estimated Number of Insured Workers, aged 16-64, July 1923 and July 1937

Industry	Estimated No. of insured workers aged 16-64		Increase (+) or Decrease (-) 1923-37		No. in each industry as % of total insured workers at July 1937	
	July 1923	July 1937	No.	% of July 1923	Stoke-on-Trent	Great Britain
Pottery, Earthenware .	52,930	59,730	+ 6,800	+ 13	47.1	0.6
Brick, Tile, Pipe, etc. .	1,390	2,670	+ 1,280	+ 92	2.1	0.8
Coal Mining	22,890	18,080	- 4,810	- 21	14.3	6.6
Iron and Steel (including Pig-iron Manufacturing)	3,940	2,930	- 1,010	- 26	2.3	1.5
General Engineering . .	2,040	2,600	+ 560	+ 27	2.0	4.6
Printing, Publishing, etc.	630	1,120	+ 490	+ 78	0.9	2.1
Building	2,770	5,920	+ 3,150	+ 114	4.7	7.7
Distribution	4,200	9,140	+ 4,940	+ 118	7.2	15.2
Hotels, etc.	560	1,020	+ 460	+ 82	0.8	3.3
Gas, Water, Electricity	160	1,070	+ 910	+ 569	0.8	1.6
Road Transport (not Tram or Bus)	650	1,890	+ 1,240	+ 191	1.5	1.5
Tram and Bus Service	910	1,860	+ 950	+ 104	1.5	1.5
Other Industries and Services ¹	11,530	18,720	+ 7,190	+ 62	14.8	53.0
Total	104,600	126,750	+ 22,150	+ 21	100.0	100.0

¹ Number of insured workers in rubber manufacturing, July 1939: 1,550.

From the Ministry of Labour's evidence to the Barlow Commission.

number of men employed increased relatively little—in the country as a whole there were 33,160 insured male workers aged 16-64 in 1928, and in 1938 the number had risen only to 33,820. Women were less affected by unemployment, and there was no shortage of work for boys and girls; it is on record that a manufacturer in one town in this district in the depth of the depression, when 60 per cent of the men in the town were unemployed, applied to the head-mistress of the girls' school for girls to be released to work in his factory before they reached the age of fourteen.

The proportion of women normally working in industry in the Stoke district is high; in 1939 there were 52 insured women and girls aged between 16 and 64 to every hundred insured boys and men in the Stoke district, as against 39 for every hundred in Great Britain. It is probable that before the war there was some over-employment

of women, in the sense that women who in other districts would have preferred to look after their homes were forced to work by economic necessity. Men's wages before the war were relatively low—information supplied by insurance companies suggests that an average wage was about 16s. 6d. a week lower in Stoke than in Nottingham or Leicester—and the heavy unemployment among men was a further incentive for women to go out to work. The habit of married women working in industry is ingrained in the Stoke district, and can scarcely be changed overnight; but there is little doubt that if men's wages were higher in peace-time, or were supplemented with family allowances, the number of married women working would eventually diminish considerably.

The feature of the Stoke district which strikes a casual visitor most strongly is the extremely poor living and working conditions found in large parts of it. Past development has been disorderly and, until very recent years, of exceedingly poor quality. A high proportion of the existing houses are ripe for demolition at the earliest opportunity—though not, it must be admitted, a higher proportion than in several other industrial districts in the West Midlands—and the proportion of Stoke factories in which full efficiency and good working conditions are impossible cannot be much smaller. Particularly in the pottery industry, there are large numbers of factories whose construction and cramped position make it impossible to bring them up to modern standards, and which in addition are situated in residential areas. Re-development is made simultaneously more difficult and more urgent by the problem of subsidence due to coal mining, which affects a large part of the area. The Stoke district has no centre; Stoke-on-Trent County Borough, the natural capital of the district and of North Staffordshire, is itself a shapeless conglomeration of six towns, with the main station and the chief local government offices in one town, the shopping and road transport centre in another, and an absence of common feeling symbolized by the retention of the original separate town halls. There is a notable lack of service industries. Even in Stoke County Borough, the regional centre, Table 80 shows that in 1937 no more than 16½ per cent of the insured population were engaged in building and the five other service trades for which separate details are given, against 31 per cent for the country as a whole.

PROSPECTS—THE ESTABLISHED INDUSTRIES

The economic outlook for the Stoke district is on the whole favourable; the district should not in any case be worse off than before the war, and with reasonably good management should do much better.

In the pottery group prospects vary considerably from one section to another; but output in all the main sections seems likely to regain

or pass the pre-war level, even if there are no great technical changes. There is no reason to fear that the recovery of pre-war levels of output in the country as a whole will be offset, so far as the Stoke district is concerned, by any tendency for other areas to gain ground at its expense. Stoke-on-Trent County Borough contained in 1923 about 76 per cent of the insured pottery workers in Great Britain, and by 1937 the proportion had increased to 80 per cent; in the same period the number of insured workers at Stoke in the brick, tile, and pipe group increased by 92 per cent, against 84 per cent for the country as a whole. There is no reason to expect a reversal of the tendency indicated by these figures for the concentration of the pottery industry in the Stoke district to increase, though it is both possible and desirable that part of the industry may move out of Stoke-on-Trent County Borough itself into the surrounding districts. Josiah Wedgwood and Sons set the example before the war by moving their main works from Etruria into open country near Barlaston.

In the home market there are certain sections of the pottery and related industries which seem likely to do very much better than before the war. The brick, tile, and sanitary earthenware sections should benefit from the national building programme. The electrical porcelain section may experience some temporary difficulties in the first years after the war, since output and capacity in this section have increased since 1939. In the long run there is little doubt that the rising trend of normal demand for this section's products will make it possible to absorb the increased capacity without difficulty, and even in the short run the tendency for a surplus to appear may be offset by the production in this country of types of goods which were imported before the war. The demand for domestic pottery is scarcely likely to be less than before the war, and with rising standards of living should be considerably greater. The average expenditure on domestic pottery in Great Britain for the year 1935, at retail prices, was about 4s. 7d. a head of the population; there is obviously room for a substantial increase.

Export prospects are naturally less certain. The course of events after the last war suggests that rising standards of living in overseas markets, and a consequent increase in demand for pottery and earthenware products, should partly or wholly balance the tendency for overseas countries to manufacture an increasing proportion of their own requirements. The degree of balance will depend largely on the general level of international trade. The share of pottery in the value of all British exports was remarkably constant from 1900 to 1913 and again from 1922 to 1937, at about 0·7 per cent; if there are no great technical changes in pottery manufacture this relationship may well continue, so that the volume of exports of pottery

will vary in proportion to the general volume of British sales abroad. Some shift in demand from cheaper to finer qualities is probable.

On balance, the output of pottery and related products in and around Stoke may well be greater than before the war, even after the first rush of post-war demand has been satisfied. How far it exceeds the pre-war level is likely to depend to a considerable extent on the rate of reorganization of the industry and of the introduction of new techniques. It has in the past been both the strength and the weakness of the pottery industry that it is organized largely in small units, little mechanized, and following a craft tradition. The value of the small firms to the industry is illustrated by the claim that 60 per cent of pre-war export trade was done by firms with less than a hundred workers; the loss of the enterprise and skill of the small manufacturer would be an irreparable blow to the pottery industry. At the same time, the division of the industry into small units has undoubtedly helped to hold up the introduction of desirable innovations which, while not necessarily incompatible with the continuance of the small firms, require a broader vision or greater capital resources than many of them possess. Co-operative research,¹ better training and use of designers, the rebuilding of factories in order to allow better working conditions and more efficient methods of labour organization, and the introduction of electrically or gas-fired tunnel ovens for certain types of ware in place of the traditional coal-fired kilns are cases in point. The war has shown the possibility of achieving a number of advantages by co-operative action, including particularly the establishment of standard lines which can be mass-produced for stock. In these and a number of other directions there is room for a considerable permanent improvement in the efficiency of pottery manufacture, and discussions with this in view have been proceeding inside the industry during the war.

An improvement in the efficiency of pottery manufacturing would undoubtedly result in an increase in output, and should result in an improvement in wage rates and working conditions. Whether it would also result in an increase in employment is more doubtful. At pre-war levels of incomes and prices the demand for pottery was not highly elastic, and even a rise in output might not be enough to compensate for the effect of increased efficiency on employment. The outlook for employment in the pottery and related industries around Stoke is in fact extremely uncertain. Without great technical changes it might rise above the pre-war level. If changes occur, as some undoubtedly will, the level of employment in the long run may well be lower than before the war.

¹ There was very little research in the pottery industry until the Import Duties Advisory Committee required the industry to create a Research Association in 1937 as a condition of increased protection.

All this, of course, refers to long-term prospects. In the short run the problem of the pottery, brick, and tile industries will be to re-start production reasonably quickly in the face of an overwhelming demand, and to avoid unfair discrimination against firms which, through no fault of their own, have been forced to close during the war or may find difficulty in reopening afterwards. Fear of discrimination against the smaller firms has caused a certain amount of feeling in the Potteries during the war. It is important from the point of view of long-term as well as of short-term prospects that no reasonable ground for feelings of this kind should be left in the first period of reconstruction, since the period before firms have cleared their premises of Government stores or of other firms which have shared the premises during the war, and before normal production can be re-started, will provide the best opportunity for securing a number of reforms of value in the long run.

Changes in location are perhaps the best instance. One suggestion which has been made in the Potteries is that the smaller china manufacturers might combine to take over a new aircraft factory on a good site in open country near Stoke; the factory could be divided into units on trading estate lines, and firms could share facilities such as canteens, engineering workshops for making or servicing equipment, and possibly common arrangements for the co-operative provision of clays, slips, and plain glazes. The site of the new factory would be suitable for a new town, while the firms which might move into it are at present situated for the most part in areas which are unsuitable for re-development on account of the problem of subsidence. Schemes of this kind are likely in any case to meet with considerable resistance from both employers and workers.¹ Their chance of success will be greatest if the attempt to bring about permanent changes is not delayed until after firms have re-started production in their old works, and it is accordingly important that immediate action should not be obstructed by fears of discrimination.

Employment in the mining industry, the second most important group in the Stoke district, seems likely to be stable after the war. The output of the North Staffordshire coalfield was 6.6 million tons in 1913, 5.9 million in 1929, and 7.2 million in 1937. Employment fell from 30,000 in 1913 and 36,000 in 1924 to 24,000 in 1937 as a result of mechanization, which by 1937 was practically complete; 92 per cent of all North Staffordshire coal was cut mechanically in 1937, and 90 per cent was mechanically conveyed below ground. The market for North Staffordshire coal is mainly local, and overseas exports are negligible—about 1 per cent of total output before the

¹ In the particular case quoted it is doubtful (at the least) whether anything will actually come of the suggestion—which is not, of course, to say that it is necessarily unsound.

war. If activity in the pottery industry is maintained or increased there should be no decline in coal output, so far at least as available information goes; it is not certain what allowance should be made for the ultimate possibility of fuel economies in the pottery industry through the more widespread adoption of gas or electrically fired tunnel ovens. If coal output does not decline there should be no further decline in employment, since mechanization had proceeded so far by the middle of the 'thirties that output per man remained practically constant from 1935 until the outbreak of war. There is no reason to suppose that output per man will rise greatly or rapidly in future; war conditions have caused a fall which may not be made good for some time.

The other established industries of the Stoke district seem likely on balance to employ about as many workers as before the war, and possibly slightly more. In the case of the metal industries there may be a slight net increase; some of the firms in this group may experience difficulty in re-starting normal production quickly after the war, less for technical reasons than because of uncertainty about the market for their products. Some increase seems probable in the rubber industry.

So far as the manufacturing and extractive industries established in the Stoke district before the war are concerned, it seems that the level of employment is likely to be about what it was before the war, or slightly higher. This by itself would imply a serious amount of unemployment. The prospect (or at least the possibility) of a substantial rise in employment and of the absorption of the pre-war surplus of unemployed is due to the probable expansion of the service trades, including building, and to the possibility of making permanent use of a number of munition factories established during the war.

THE NEW INDUSTRIES AND THE SERVICE TRADES

The most valuable addition to the economy of the Stoke district during the war is a series of factories engaged on light engineering and aircraft work, built on sites suitable for permanent development. Around these factories a new light engineering tradition has grown up. Workers in the Stoke district before the war were, for the most part, unused to modern factory methods. Not far short of half worked in pottery factories where there was little mechanization, and where individual workmanship, a piecework basis for wages, and irregular working hours were the rule; a substantial number of others worked in coal mines. They had to be trained for engineering work, and did not at first take kindly either to the discipline or (in some cases) to the wage system of the new engineering factories. These difficulties have been overcome. Many semi-skilled or unskilled workers in the new factories have become fully efficient enough to

justify their being kept on at engineering work after the war, and, though a large proportion will probably in any case want to go back to pottery, domestic work, or other occupations, it seems reasonably safe to say that there are several thousand who would be ready to stay in engineering after the war if wages and conditions compare at all favourably with those in other local occupations. A local supply of skilled craftsmen has been created by co-operation between the firms concerned and Stoke Technical College. There is a shortage of ancillary engineering firms in the Stoke district; but this has been largely overcome by providing each of the new factories with a big enough toolroom to enable it to meet most of its own needs.

Some of the new engineering work in the Stoke district is likely in any case to continue after the war, and it is desirable from several points of view that an effort should be made to induce either single firms or groups of firms to provide some similar work in any factories which may be released. It is not merely a question of providing new employment, important as that is. The establishment of a light engineering industry has thrown into relief the relatively poor earnings and working conditions in the pottery industry and (until recently) in coal mining, and the continuance of engineering on a large scale would undoubtedly result in a substantial permanent improvement in conditions in the other industries of the district.

It is less easy to see what use can be made of a filling factory some distance from the main built-up area round Stoke. If it is not required permanently by the Government, it might perhaps be made the centre of a comprehensive re-development of Stoke—a large part of the city might be removed to the new site, which is on sound land suitable for development, and the land actually occupied by the filling factory might become an industrial estate. In the absence of a comprehensive development of this kind little use could probably be made of this factory after the war. It is too remote to be convenient for firms which would have to draw their labour from the main built-up area. Its buildings are for the most part unsuitable for normal industrial production, and demolition and replacement with better buildings would scarcely be worth while except in connexion with the establishment of a new town.

The scope for an expansion of the service industries is obvious enough from what has been said on living and working conditions in the Stoke district. The service industries were growing rapidly down to the war, and the rate of growth might well be accelerated in future. It is uncertain how high the needs of this district will come in the Government's scale of building priorities after the war; but there is no doubt that a considerable expansion of the local building industry will be necessary. An acceleration of the rate of growth of employment in trades such as distribution or the hotel service is

bound up to some extent with questions of local and regional government. These services would be very much better represented in the Stoke area if a compact, conveniently situated, and attractive shopping, business, and recreational centre for North Staffordshire could be developed. This is partly a matter of the re-development of Stoke-on-Trent County Borough, the leading town. The growth in Stoke of the services natural to a regional capital would be helped by the establishment of North Staffordshire as a region on its own, centring naturally on Stoke, under any system of regional government which may be applied after the war. During the war, North Staffordshire has formed part of the West Midland Civil Defence Region. This arrangement is unsatisfactory, even apart from the special defects of the wartime system of government by regional commissioners; Birmingham is relatively remote from North Staffordshire, and there is little resemblance between the industrial or social structure of the Stoke district on the one hand and Birmingham, the Black Country, and Coventry on the other.

The pre-war surplus of unemployed workers in the Stoke district in good years has been estimated at between 15,000 and 20,000. This is about the number of new jobs which would have become available if the proportion of workers engaged in distribution, road transport, local government, and the public utility services in the Stoke district in 1939 had been raised to the national level. It would be unreasonable to expect the proportion of workers engaged in service trades in the Stoke district to rise even to the pre-war national level for some years after the war; but there is no reason why an additional 10,000 or 15,000 jobs in service trades should not be found. A further 3,000 or 4,000 additional jobs might be available in building, and possibly 5,000—obviously a very speculative estimate—in such of the new munition factories as are not demolished or used to re-house pottery firms. The possibility of some slight increase in employment in the older manufacturing and extractive industries must also be borne in mind. The number of new jobs which may be available is greater than the pre-war surplus of unemployed; on the other hand, it must be remembered that there has been some natural increase of population during the war and that the workers required in the expanding industries would probably include a higher proportion of women than the pre-war body of unemployed.

It must also be remembered—the point deserves the strongest possible emphasis—that these estimates refer to conditions which might be brought about by appropriate action. Some of the increase in employment will probably occur in any case, particularly in building and the service industries. A great deal of it, especially in the new manufacturing industries, will come into existence only if it is specially stimulated and encouraged.

CHAPTER XII

THE WEST MIDLANDS¹

THE Nuffield Survey's inquiries in the West Midlands were carried out in co-operation with the West Midland Group on Post-War Reconstruction and Planning, and accordingly took a rather different form from inquiries in most other areas. The West Midland Group's scheme of research is concerned to a greater extent with physical planning and with agriculture than the work of the Nuffield Survey, and is also designed to be carried out over a longer period. As a result, the inquiries made in the West Midlands have been more detailed and more limited in area than would have been desirable from the point of view of the Survey alone, and at the same time have been concerned with a number of subjects outside the scope of the present report. The West Midland Group's investigations will eventually result in a complete and detailed survey of the whole area. At the moment of writing (the spring of 1944) these investigations are incomplete; a great deal of information is available about some areas and subjects, while in other cases it is possible only to give a general impression of the problems which are likely to arise, without attempting to suggest solutions.

The areas covered in the West Midlands divide themselves into four. Much the most important is the metal-working area of Birmingham, the Black Country, and Coventry, which contained in 1938 about two-thirds of the population of the whole region. The coal-fields of Cannock Chase and Warwickshire form a second district. The third includes Shropshire, Herefordshire, and the southern part of Worcestershire, and is predominantly agricultural. The fourth, Kidderminster and Stourport, should strictly be regarded only as one part of an area in North Worcestershire, including Bromsgrove and Redditch, which is loosely attached to the Birmingham and Black Country conurbation; but the remainder of this area had not been covered in detail by the spring of 1944, and in any case Kidderminster, as a centre of the carpet industry, has distinct problems which occur nowhere else in the West Midlands.

THE WESTERN COUNTIES

The greater part of Herefordshire, Shropshire, and South Worcestershire depends on agriculture and related occupations, though there

¹ Warwickshire, Worcestershire, Herefordshire, Shropshire, and South Staffordshire. The wartime West Midland Civil Defence Region includes the remainder of Staffordshire in addition to this area.

is in addition a certain amount of manufacturing industry. A good deal of the industry (agricultural implements and machinery, fruit and vegetable canning, bacon curing, and the like) is directly linked to agriculture. The two largest towns, Worcester and Shrewsbury, contained before the war a number of important industries, some of them heavy; railway wagon building and safe and strong-room manufacturing at Shrewsbury are examples. But even Worcester, industrially much the more important of the two towns, was not sufficiently industrialized to have lost its character as primarily the centre of an agricultural area.

The only predominantly industrial area in the western counties is in the east of Shropshire, round Wellington, Ironbridge, and Oakengates (Table 81). This is one of the oldest industrial areas in the country; iron was first smelted with coal at Coalbrookdale, in the centre of the area, and Ironbridge takes its name from the first iron bridge in Great Britain, which was designed and built here. The industrial importance of the area was originally due to the local supply of coal and iron-ore. Coal mining still remains an important local industry. The output of the Shropshire coalfield fell from 850,000 tons in 1913 to 650,000 in 1929, and from then until the outbreak of war remained practically stable. Employment fell from 3,600 in 1913 and 4,100 in 1922 to 2,800 in 1929, and then more gradually to 2,600 shortly before the outbreak of war. The field is old, the average size of the mines is very small, and output per man-shift is well below the national average; but nearly all the coal is sold in local markets which are unlikely to be lost. The importance of the iron and steel industry diminished in the years before the war as a result of the progressive exhaustion of the local ores; but a number of iron and steel-using industries continued to flourish. Iron founding and constructional and general engineering are the most important. Stone-quarrying and brick, tile, pipe, concrete goods, and sanitary ware manufacturing form the biggest group after the coal and metal industries. One minor industry which has a particular interest is toy-making at Wellington. The Chad Valley Company began to make toys and games here during the last war; other firms have come in, and Wellington is now said to be the most important soft toy centre in England.

Unemployment in this district was heavy during the 'thirties; between 30 per cent and 40 per cent of the insured populations of the Ironbridge, Oakengates, and Wellington exchange areas were out of work in the worst months between 1930 and 1935. A good deal of this unemployment was due to the trade cycle, to which these areas are naturally particularly sensitive; but there was a considerable element of persistent unemployment as well. The Lilleshall Company, the largest firm at Oakengates, closed a large steel and engineering

TABLE 81

HEREFORDSHIRE, SHROPSHIRE, AND SOUTH WORCESTERSHIRE.
PROPORTION OF ALL OCCUPIED PERSONS (EXCLUDING THOSE
OUT OF WORK) IN EACH INDUSTRY

Census of 1931. Proportion per thousand

Industry	South Wor- ces- ter- shire ¹	Here- ford- shire	Shrop- shire (except Well- ton, etc. district)	Well- ton, Oaken- gates, Iron- bridge district ²	England and Wales
<i>Agriculture, Fishing</i>	194	295	247	115	60
<i>Mining, Treatment of Non- metalliferous Mining Products</i>	11	6	44	110	59
<i>Manufacturing</i>	229	115	117	362	323
Bricks, Pottery, Glass	10	11	3	65	11
Chemicals	1	4	1	2	12
Metals, Engineering	89	29	43	229	106
Textiles	9	1	9	1	58
Clothing	55	13	15	12	47
Food, Drink, Tobacco	31	34	23	20	34
Wood, Furniture, etc.	10	8	7	10	14
Paper, Printing, etc.	12	8	7	5	25
Miscellaneous Manufacturing (including Leather)	12	7	8	18	18
<i>Building, etc.</i>	45	46	44	36	51
<i>Services</i>	521	539	548	377	507
Gas, Water, Electricity	11	9	9	10	13
Transport, Communications	57	48	69	45	69
Commerce, Finance	145	130	142	111	166
Public Administration, De- fence	77	79	85	56	83
Professions	43	37	37	31	34
Entertainments, Sport	6	6	5	6	9
Hotels, Personal Service	183	230	201	118	135
<i>Total Occupied Population (in- cluding Out of Work)</i>	69,558	48,412	82,463	25,325	—
<i>Percentage of Total Occupied Population Out of Work</i>	7.9	9.2	8.2	14.3	11.5

works in 1930, and the heavy fall in mining employment at the end of the 'twenties and the beginning of the 'thirties had also to be made good. Though recovery from the depression was more rapid than in the country as a whole, and a high level of employment was eventually reached in 1937, there was considerable emigration to more

¹ South Worcestershire consists of all Worcestershire south of, and including, Droitwich and Martley Rural Districts, but excluding Redditch.

² Including what at the date of the Census were Wenlock M.B., Dawley, Oakengates, and Wellington Urban Districts, and Newport and Wellington Rural Districts.

prosperous areas; the population remained almost exactly the same in 1938 as in 1931.¹

There has been a certain amount of dispersal of industry into this area during the war, but little new development on any large scale; only one important new factory had been opened down to 1942. The development which carries most hope for the future is a Government storage depot which has been built some way outside the existing industrial area. This depot should provide a considerable amount of permanent employment, though it seems that a large part—possibly all—of the new demand for labour will be met by the permanent transfer of workers from other districts. For the most part the area will have to rely for future employment on the industries established before the war, and on the somewhat limited possibilities of attracting new industries in future. Its attractiveness for new industries might be very greatly increased if its present extremely unsatisfactory housing conditions and general disorder and ugliness could be remedied. Possibly the worst example is the Oakengates Urban District; nearly an eighth of its area is covered with old tips from coal workings, and no serious effort at clearance was made until material was required for roads in the new Government depot. It appears that even during the war conditions of this kind have resulted in potential new industries going elsewhere. The prospects of the existing industries are difficult to assess. In coal mining there may well be a further fall in employment, though probably not in output. It is said locally—it is difficult to know with what justification—that past falls in employment in some sections of the metal trades were due at least as much to bad management as to factors beyond local control, and there is some reason to hope for improvement in this direction.

Outside the industrial district of Shropshire the main problems arising in the western counties before the war were those which affected almost all agricultural areas. There was considerable unemployment in a few districts; the exchange areas of Bishops Castle, Ludlow, Cleobury Mortimer, Ledbury, and Ross, appeared in the Ministry of Labour's lists of areas requiring special assistance.² But in general unemployment was below the national level, though well above the level of the South-east, and the problem was not so much an absolute lack of employment as lack of employment at satisfactory wages and under satisfactory living and working conditions. Conditions varied from place to place; the market-gardening area of Worcestershire naturally had problems rather different from those of the other agricultural districts. But conditions were sufficiently

¹ 57,750—Wenlock M.B., Wellington, Oakengates, and Dawley U.D.s, and Wellington R.D. In 1938 Newport R.D., for which figures are included in Table 81, had been absorbed in Wellington R.D.

² Chapter I, Appendix 1.

similar for the example of one of the three counties, Herefordshire, to be an adequate illustration of conditions in them all.

Herefordshire is possibly the best example of a predominantly agricultural county to be found anywhere in England. Nearly 30 per cent of the occupied population in 1931 were directly engaged in agriculture, as against only 12 per cent in extractive and manufacturing industries, and many of the manufacturing industries were closely associated with agriculture. Food processing, cider-making, soft drink manufacturing, milk processing, a firm making hop and fruit-growing accessories, and agricultural machinery manufacturing are examples. There were in addition, even before the outbreak of war, a few firms with no direct agricultural connexions. One firm, founded since the last war, made structural steelwork, largely for export; another made tools and other special equipment for the aircraft industry. A Royal Ordnance Factory was built at Hereford in the last war to make explosives, and was maintained between the two wars with a skeleton staff; it seems to have been regarded locally as something of a nuisance.

There was not enough work in Herefordshire to employ all the available workers at satisfactory rates or under good conditions until the beginning of rearmament. Unemployment was not far short of the national level. Wage rates were exceedingly low; in agriculture, the main occupation, the minimum wage for an adult man at the beginning of 1937 was 31s. 6d. There was a shortage of paid work for women outside domestic service. The quality of housing and the supply of public services and social amenities were in many cases inadequate. Not more than half the villages and hamlets in Herefordshire were supplied with electricity in 1939, and the supply of other services was in many cases worse. As a result of low earnings and the superior attractions of urban living conditions population was drifting away from the county; the total population fell by 2·8 per cent between 1931 and 1938, and the only local authority area in which the population increased was the city of Hereford itself. The fall was heaviest in the rural districts, whose population declined by 6½ per cent, as compared with a fall of 2 per cent in the smaller urban districts.

The war may result in a permanent revival of agriculture and a determined drive to improve rural living conditions; apart from this, which at the moment of writing is a speculation, it does not appear that much has occurred since 1939 to prevent the re-emergence of conditions similar to those which existed before the war. A number of new small-scale industries have come in, of a kind suitable for permanent settlement in the county, and several of these are in fact likely to remain—provided, in certain cases, that they can overcome the dislike of local planning authorities for any form of industrialization. These industries are likely to add several hundreds to the

county's capacity for industrial employment, and the possibility of attracting further industries in future has been increased by the training of some thousands of Herefordshire workers in factory methods during the war. These gains are important; but they do not necessarily imply that the demand for industrial workers in Herefordshire will be greater than before the war in relation to the supply. The supply has also increased; in particular it is likely that, as a result of wartime experience, the number of women looking for paid industrial work in Herefordshire will be considerably greater in future than it was before 1939. There is a danger that the mild depression and emigration of the years before 1939 will recur.

It is obviously impossible to discuss in any detail the measures needed to deal with conditions of this kind until decisions have been taken on the future of agriculture, which is outside the scope of the present report. It is, however, possible to indicate one line of development which should in any case be followed in Herefordshire, Worcestershire, and Shropshire alike, since it represents the development of a resource of national value, and not merely an effort to remedy a local difficulty. All the western counties have considerable advantages as tourist areas, and some parts of them have attracted large numbers of tourists in the past—Malvern or the Wye Valley are examples. There is little doubt that this industry could be greatly extended, particularly by developing a farmhouse tourist trade. Besides providing additional income, a bigger tourist industry would in all probability result in an improvement of public services and amenities which would be of general value to the three counties.

Worcestershire has a specialized tourist and residential problem in the two spas of Malvern and Droitwich. Neither resort was developed before the war to an extent commensurate with its national importance. Of Droitwich a Survey Report says:

'The whole town is shabby in its old parts, tasteless and vulgar in its new buildings, dull and unimaginative in the facilities provided. Yet the place is unique in Europe.'

The greater part of the facilities at Droitwich were controlled before the war by Droitwich Spa Limited, a commercial company, which appears to have made a considerable effort to attract richer clients: 'There was some accommodation for poorer people, but the waiting list was immense'. Re-development of the town and a great expansion of cheaper facilities appear to be the main needs here.

The position at Malvern was similar, though Malvern had a wider range of interests. There was a lack of good cheap accommodation for families on holiday. Working-class housing for residents was unsatisfactory, and a high proportion of the middle-class and boarding-houses in the town were built at a time when domestic

servants were very much easier to come by than even before the present war, and are correspondingly inconvenient under modern conditions. There was a noticeable shabbiness and general air of decay about many of these houses before the war. A number of the local boarding-schools were housed in unsuitable buildings—the future of these schools, in view of educational developments during the war, is perhaps the most important problem which has arisen for Malvern since 1939. The medical facilities for which Malvern is specially suitable were less well developed than might have been expected. There was a good deal of seasonal unemployment, aggravated by the tendency of the owners of hotels and boarding-houses to concentrate on exploiting one or two special attractions—the Festival and the Archbishops' Conference—instead of trying to induce a steady stream of visitors. The growth of a dormitory population working in and around Birmingham, which might have given employment greater stability, was hindered by the inadequate train service. There is no reason to expect any serious depression at Malvern after the war; but it is clear that a great deal of re-development and improvement of facilities is needed if full advantage is to be taken of a valuable national asset. There is an active Malvern Development Association, representing most of the interests in the town, and it is understood that the Urban District Council has also been considering future policy for the town.

BIRMINGHAM, COVENTRY, AND THE BLACK COUNTRY¹

Birmingham, Coventry, and the Black Country form what is first and foremost a metal manufacturing area. There are other important industries; the food industries at Birmingham, the leather industry at Walsall, rayon at Coventry and Wolverhampton, and coal mining in several parts of the Black Country are examples. But metal-working in one form or another is the area's predominant interest. From many points of view the whole area can be regarded as a single industrial unit. Tables 83, 84, and 85, which illustrate the economic structure of the area's three main sections, show that the three sections have a number of industries in common, including particularly the motor industry, electrical apparatus manufacturing, and several of the miscellaneous metal trades. The industries of the different sections are largely interdependent, since the industries manufacturing finished products, especially at Birmingham and Coventry, draw raw materials and components from all over the area.

¹ The Black Country has been taken to include Smethwick, Walsall, West Bromwich, Wolverhampton, and Dudley County Boroughs, Bilston, Rowley Regis, Tipton, Wednesbury, Halesowen, Oldbury, and Stourbridge Municipal Boroughs, and Amblecote, Brierley Hill, Coseley, Darlaston, Sedgley, Tettenhall, Wednesfield, and Willenhall Urban Districts.

There is also a large interchange of labour between the different towns; this interchange was extensive enough in 1921, when the last comprehensive statistics were compiled, and may well have increased between that date and the outbreak of war.

In spite of these unifying factors, there is (as the Tables show) a considerable difference between the industrial structure of the three sections. According to the traditional distinction Birmingham tends to produce for the most part finished metal goods, frequently of a kind requiring a high degree of craftsmanship or complicated assembly work, while the Black Country is a source of raw materials—coal, iron and steel, and chemicals—and produces metal goods of a relatively crude type. Birmingham is traditionally concerned largely with the non-ferrous metals, and contains probably a wider variety of industries than any other town in Great Britain; the Black Country is predominantly an iron and steel-working district, and individual Black Country towns tend to specialize on a comparatively narrow range of products. Coventry has come in recent years to be dominated by the motor industry.

The development of industry in this area between the Great War and 1939 represented a continuation of trends whose origin can be traced well back into the nineteenth century. Table 82 gives a general impression of the types of product made in Birmingham and the Black Country towns in the third quarter of the nineteenth century, shortly before the beginning of the latest phase in their development; the leading industries of Coventry at the same date were watch and clock-making and silk. In the last thirty years before 1914 the industrial structure illustrated by the Table was being modified in two ways. The relative importance of a number of the older industries changed considerably. The jewellery, brass, nut and bolt, chain and anchor, screw and pin industries were advancing rapidly. A number of others—notably the wrought-iron industry in the Black Country and the gun and button trades at Birmingham—were declining. Several industries which were relatively prosperous down to the end of the nineteenth century were declining rapidly in the last years before 1914; the tin-plate and japanned-ware, cast-iron hollow-ware, metal bedstead, and saddlery and harness industries are examples. The Coventry silk industry decayed almost to vanishing point.

While these changes were proceeding among the older industries, a number of new industries were developing along lines which influenced the whole industrial structure of the area. The motor and cycle industry developed at Birmingham, Coventry, and Wolverhampton. The production of finished cars and cycles took place in these three towns; but components were drawn from all over the metal-working area.

TABLE 82

BIRMINGHAM AND THE BLACK COUNTRY. INDUSTRIES LOCALIZED IN CERTAIN AREAS. THIRD QUARTER OF THE NINETEENTH CENTURY

<i>Birmingham, Aston, and District</i>	Brass, non-ferrous metals, guns, jewellery, buttons, pens, edge-tools, flint glass, tin-plate and japanned ware, papier maché ware, rolling stock, wire, pins, cut nails, saddlery and leather-work, bedsteads.
<i>Smethwick</i>	Screws, sheet glass, constructional engineering.
<i>West Bromwich</i>	Hollow-ware, safes, springs, constructional engineering.
<i>Walsall</i>	Leather, saddlery and harness, saddlers' ironmongery, locks, brushes, iron tubes.
<i>Bloawich</i>	Awl blades, saddlers' ironmongery.
<i>Wednesbury</i>	Tubes, gun-locks.
<i>Darlaston</i>	Nuts and bolts, gun-locks.
<i>Willenhall</i>	Locks and keys, curry-combs.
<i>Wednesfield</i>	Locks and keys.
<i>Bilston</i>	Tin-plate and japanned ware, cast and wrought hollow-ware, galvanizing.
<i>Tipton</i>	Chains, wrought nails, heavy engineering.
<i>Dudley and District</i>	Wrought nails, chain and anchor, fenders, fire-irons, constructional engineering.
<i>Wolverhampton</i>	Tin-plate and japanned ware, papier maché ware, locks, edge-tools, cast and wrought hollow-ware, galvanizing, cut nails, iron tubes, iron fencing, brass.
<i>Cradley</i>	Chains.
<i>Oldbury</i>	Chemicals, rolling stock.
<i>Halesowen</i>	Wrought nails, edge-tools, buttons.
<i>Stourbridge and District</i>	Flint glass, crown glass, firebrick and retort, edge-tools.
<i>Lye</i>	Firebricks, retorts, chains, anvils, vices.
<i>Redditch</i>	Needles, fish-hooks.
<i>The Black Country generally</i>	Iron, coal.

From G. C. Allen, *Industrial Development of Birmingham and the Black Country*.

'The springs came from Smethwick, West Bromwich, and Redditch, the weldless tubes from Wolverhampton and Oldbury, the wheels from Dudley and Bilston, the saddles and leather-work from Walsall, and the multitude of castings, pressings, and stampings from many Black Country centres.' (G. C. Allen, *Industrial Development of Birmingham and the Black Country*, p. 302.)

Several entirely new industries were called into existence. The Dunlop factory at Castle Bromwich was built to meet the needs of the local motor and cycle manufacturers, and developed into one of

TABLE 83—BIRMINGHAM

Estimated Number of Insured Persons, aged 16-64, July 1923 and July 1937

Industry	Estimated No. of insured persons aged 16-64		Increase (+) or Decrease (-) 1923-37		No. in each industry as % of total insured persons July 1937	
	July 1923	July 1937	No.	% of July 1923	Birmingham	Great Britain
General Engineering	17,090	20,350	+ 3,260	+ 19	4.5	4.6
Motors, Cycles, Aircraft	32,270	47,420	+ 15,150	+ 47	10.5	2.6
Railway Carriage and Wagon	3,030	6,720	+ 3,690	+ 122	1.5	0.4
Electrical Engineering	5,810	16,430	+ 10,620	+ 183	3.6	0.9
Electric Cables, Apparatus, Lamps, etc.	2,330	5,700	+ 3,370	+ 145	1.3	1.3
Miscellaneous Metal Goods	37,990	68,240	+ 30,250	+ 80	15.1	2.0
Brass and Allied Metal Wares	16,610	18,800	+ 2,190	+ 13	4.2	0.2
Stoves, Grates, Pipes, etc.	2,740	5,510	+ 2,770	+ 101	1.2	0.8
Bolts, Nuts, Screws, Nails	5,850	4,270	- 1,580	- 27	1.0	0.2
Watches, Clocks, Plate, Jewellery	21,730	15,300	- 6,430	- 30	3.4	0.3
Scientific and Photographic Instruments and Apparatus	1,190	2,900	+ 1,710	+ 144	0.6	0.3
Non-ferrous Metal Manufacturing	18,220	20,340	+ 2,120	+ 12	4.5	1.0
Bread, Biscuits, Cakes, etc.	3,700	5,630	+ 1,930	+ 52	1.3	1.3
Miscellaneous Food Industries	2,330	2,420	+ 90	+ 4	0.5	1.0
Cocoa, Chocolate, etc.	8,130	10,810	+ 2,680	+ 33	2.4	0.6
Drink Industries	2,020	3,190	+ 1,170	+ 58	0.7	0.8
Rubber	10,620	8,240	- 2,380	- 22	1.8	0.5
Printing, Publishing, etc.	5,650	8,100	+ 2,450	+ 43	1.3	2.1
Furniture	4,540	7,330	+ 2,790	+ 61	1.6	1.1
Chemicals	3,120	7,050	+ 3,930	+ 126	1.6	1.7
Tailoring	2,350	3,770	+ 1,420	+ 60	0.8	1.6
Shirts, Collars, Under-clothing, etc.	1,560	2,700	+ 1,140	+ 73	0.6	0.6
Dressmaking, Millinery	3,190	2,200	- 990	- 31	0.5	0.8
Glass, Glass Bottles	1,900	2,610	+ 710	+ 37	0.6	0.4
Cardboard Boxes, Paper Bags, Stationery	1,530	2,600	+ 1,070	+ 70	0.6	0.5
Leather, Leather Goods	2,570	2,150	- 420	- 16	0.5	0.6
Building	14,170	25,840	+ 11,670	+ 82	5.7	7.7
Public Works Contracting	3,400	6,980	+ 3,580	+ 105	1.6	2.2
Distribution	27,530	48,480	+ 20,950	+ 76	10.7	15.2
Hotels, etc.	6,470	6,820	+ 350	+ 5	1.5	3.3
Laundries, Cleaners, etc.	1,400	4,190	+ 2,790	+ 199	0.9	1.3
Gas, Water, Electricity	9,570	4,270	- 5,300	- 55	1.0	1.6
Road Transport (not Tram or Bus)	2,860	4,240	+ 1,380	+ 48	0.9	1.5
Other Industries and Services	37,940	49,600	+ 11,660	+ 31	11.0	39.0
Total	321,410	451,200	+ 129,790	+ 40	100.0	100.0

From the Ministry of Labour's evidence to the Barlow Commission

the biggest Birmingham industries. A machine tool industry concerned largely with supplying the motor and cycle firms also grew up, principally at Birmingham, Coventry, Wednesbury, and Darlaston. The growth of electrical engineering, principally at Birmingham, and of electrical apparatus manufacturing had very much the same effect as the rise of the motor and cycle industries; it created a great demand for components, which was largely supplied locally. In addition to these new industries which affected the whole economy of the metal-working area there grew up a number of large firms in trades less directly related to the existing industries of the West Midlands. The food and drink industries were one group, with Cadbury's at Bournville as the outstanding example. Rayon was another; Courtauld's began to manufacture at Coventry as early as 1904.

The tendencies set going in this period were still working themselves out after the Great War, with certain modifications and changes of direction. Several of the older staple trades continued to decline. At Birmingham the jewellery trade, which had been prosperous down to the Great War, never fully recovered from the dislocation and changes of fashion due to the war. The number of insured workers engaged in this group at Birmingham fell by nearly 30 per cent between 1923 and 1937, as compared with a fall of 19 per cent in the country as a whole. Employment in the coal mines of the Black Country fell heavily as a result of the exhaustion of the seams and increased efficiency; 10,200 men were employed in 1913 and 4,900 in 1929. Output fell over the same period from 2,600,000 tons to 1,600,000. Comparative stability of employment and output was reached after 1929; in 1937 output was 1,400,000 tons and 4,300 workers were employed. The output of pig-iron followed a similar course. In the West Midlands as a whole the output of pig-iron fell from 851,000 tons in 1913 to 440,000 in 1929, and then recovered slightly to 470,000 in 1937. The fall in the output of pig-iron was compensated by a rise in the output of steel from 365,000 tons in 1913 to 702,000 tons in 1937, an increase of 93 per cent, as against an increase of 70 per cent for Great Britain as a whole.¹ The increase in output in the West Midlands was at practically the same rate as the increase in the Sheffield district, and was due to very similar causes; in both cases the lack of local ore for pig-iron production was offset by the availability of a good supply of scrap from local industries and by the nearness of a large market.

The decline in some of the older staple trades was partly offset by the advance of others, especially of the light metal industries which are particularly characteristic of Birmingham. A Committee of the

¹ The figures for steel production, like the figures for pig-iron, refer to the West Midlands as a whole.

TABLE 84—COVENTRY

Estimated Number of Insured Workers, aged 16-64, July 1923 and July 1937

Industry	Estimated No. of insured persons aged 16-64		Increase (+) or Decrease (-) 1923-37		No. in each industry as % of total insured persons July 1937	
	July 1923	July 1937	No.	%	Coventry	Great Britain
Motors, Cycles, Aircraft	22,350	37,390	+15,040	+ 67	37.0	2.6
General Engineering .	3,310	7,670	+ 4,360	+132	7.6	4.6
Miscellaneous Metal Goods	4,960	6,510	+ 1,550	+ 31	6.5	2.0
Silk and Rayon	4,870	7,530	+ 2,660	+ 55	7.5	0.6
Coal Mining	2,190	2,770	+ 580	+ 26	2.7	6.6
Building	2,120	6,400	+ 4,280	+202	6.3	7.7
Distribution	2,340	6,770	+ 4,430	+189	6.7	15.2
Other Industries and Services ¹	14,350	25,970	+11,670	+ 82	25.7	60.7
Total	56,440	101,010	+44,570	+ 79	100.0	100.0

Council for Art and Industry shortly before the war classified the Midland light metal trades into nine groups:

Hearth furniture in brass, bronze, or rustless steel.

Door furniture in brass, bronze, or rustless steel.

Lighting fittings in brass, bronze, rustless steel, and glass.

Electric fires in brass, bronze, or rustless steel.

Miscellaneous stamped goods which are used as components in a variety of other trades—some of the designs being common property and known as "parish goods".

Cabinet brasswork used in conjunction with furniture.

Spun hollow-ware in aluminium and other materials.

Shop fitting sundries.

Novelties such as trays, calendars, hair brushes, mirrors, and combs, cigarette cases, etc.¹

(*Design and the Designer in the Light Metal Trades*. Report of a Committee appointed by the Council for Art and Industry, 1939.)

One or two of these trades declined in the twenty years before the war, notably the export trade in fancy brass goods to India and the

¹ The number of insured workers in the electrical industries at July 1935 was:

	No.	% of all insured
Electrical cables, apparatus, etc.	4,450	4.5
Electrical engineering	2,650	2.7

From the Ministry of Labour's evidence to the Barlow Commission.

Colonies. Looking at the list, it is not surprising to find that the rest flourished greatly, helped by the building boom and the rising standard of living. Most of the light metal trades fall into the Ministry of Labour's categories of 'Brass and Allied Metal Wares' and 'Miscellaneous Metal Goods'; the number of workers in Birmingham in these two groups increased by 60 per cent between 1923 and 1937. The older light metal industries adapted themselves successfully to the demands of new markets and to the development of new materials; there was a particularly rapid increase in the use of aluminium after the end of the Great War.

Great as was the advance in the light metal industries, it was not the most important factor in raising employment in Birmingham, Coventry, and the Black Country in the twenty years before the present war. To some extent it was merely a consequence of the most important development, the continued growth of the new industries which began to appear in the Birmingham district towards the end of the nineteenth and the beginning of the twentieth century. The motor, cycle, electrical engineering, and electrical apparatus industries accounted directly for more than a quarter of the increase of 174,000 in the insured population of Birmingham and Coventry between 1923 and 1937, and indirectly for considerably more, as a result of their demand for components. Their share in the total increase in manufacturing industries was of course very much greater; the figure of 174,000 includes the large increase in employment in the service trades and building. They also added substantially to employment in the Black Country. The food industries continued to grow, though their scale and the increase in their employment made them a comparatively small factor in the total growth of employment in these years. The rayon industry expanded in Coventry, where new works were opened in 1927; other new works were opened at Wolverhampton in 1929.

On the whole, the district which gained most from developments in these years was Coventry. There was little unemployment, except at seasonal troughs and in the depth of the depression between 1931 and 1933; even then unemployment was well below the national level. The total insured population increased by nearly 80 per cent between 1923 and 1937, and there was substantial immigration; 11.8 per cent of all the unemployment insurance books exchanged at Coventry and in the neighbouring districts of North Warwickshire in 1937 originated outside the Midlands Division, as compared with 6.6 per cent for Birmingham and 5.7 per cent for the Midlands Division as a whole.¹ The total population of Coventry increased by 20 per cent between 1931 and 1938, as against 3 per cent for the country as a

¹ Brinley Thomas: *The Influx of Labour into the Midlands in Economica*, November 1938.

whole. Earnings were high; an interesting illustration of this, as well as of the influence of the dominant local industry on social habits, is the fact that the proportion of private cars to population was higher in Coventry just before the war than in any other area outside London.¹

The growth of employment at Birmingham was less spectacular than at Coventry, but was nevertheless considerably faster than in the country as a whole; the insured population increased by 40 per cent between 1923 and 1937, as against 22 per cent in the country generally. Immigration into Birmingham itself during the 'twenties and 'thirties was comparatively small. There was a considerable influx of population into Birmingham during the Great War, and the effect of net immigration during the last half of the 'twenties was merely to offset the outflow of wartime immigrants between 1921 and 1926; over the whole period from 1921 to 1931 immigration and emigration were almost exactly equal. Between 1931 and 1937 there was little net movement into or out of the city; but there was a net immigration of about 31,500 people into the present areas of Sutton Coldfield M.B., Solihull, Aldridge, and Bromsgrove Urban Districts, and Bromsgrove Rural District. 31,500 is equivalent to $2\frac{1}{2}$ per cent of the combined peace-time populations of Birmingham and these districts, which are largely dormitories for Birmingham. Unemployment was little (if at all) higher than at Coventry.

The Black Country did less well, though it was by no means a depressed area. Unemployment at the end of the 'twenties was distinctly higher than in Great Britain as a whole. There were a few exceptions among individual Black Country towns; Wolverhampton had about the national average of unemployment, and Smethwick, which shares many of the characteristics of Birmingham, had considerably less. Depression was particularly marked at Wednesbury, where the main industry is tube manufacturing, and in the heavy iron and steel manufacturing district round Dudley, Bilston, and Tipton. During the slump of the 'thirties unemployment in the Black Country rose rapidly, as might be expected in an area of heavy industry; over 40 per cent of the insured population of Dudley and Wednesbury were out of work in the worst months, and over 30 per cent of unemployment was recorded in several other towns. This rise, however, was principally due to the trade cycle, and the Black Country gained substantially from the improvement of trade after 1933. The continual drag on the prosperity of its western end, due to the decline of the coal and pig-iron industries, came to an end after 1929; as has been pointed out, the output of pig-iron recovered by 1937 to a higher level than in 1929, and the output of coal fell much less between these years than in the comparable period of the 'twenties.

¹ One to every fourteen of the population.

With the drag removed recovery was rapid. Table 85 gives an impression of its course in the last years before the war. With the exception of coal and the brick, tile and pipe group, none of the main Black Country industries grew faster there than in Great Britain as a whole; the Black Country merely took part in the national growth of a number of trades—engineering, motors, electrical apparatus, and the miscellaneous metal industries—in which it happened to have a relatively large share. By 1936—by 1935 in the case of several towns—unemployment in the Black Country had fallen below the national level. By 1937 it was well below it, and in some districts was about or below the level of London and the South-east; Smethwick, West Bromwich, and Willenhall are examples. The recovery of the Black Country was chiefly responsible for the fall in the number of excess unemployed in the Midlands from 66,000 in 1929 to 17,000 in 1937;¹ over the same period the number of excess unemployed in the North of England remained stable, and the number in Wales and Scotland increased substantially. Rearmament probably had some effect on recovery, though it is difficult to say how much; the general impression is that much the greater part of the fall in unemployment after 1933 would have occurred in any case, as a result of the all-round improvement of trade and of the completion of the adjustment of the Black Country's economy to the decline of certain older industries. As a result of recovery the population of the Black Country rose between 1931 and 1938 by 5·4 per cent, against 3·2 per cent for Great Britain as a whole.

The war has resulted in a great increase of activity in the Black Country, accompanied by a limited amount of industrial immigration; it seems in general that few of the migrants are likely to remain, though there appears to be some doubt in the case of men from some of the former depressed areas. There has been a good deal of new industrial building. About fifty important new works or extensions were opened in the first years of war, though not all of these represented new building; there was some reconditioning of works abandoned before the war. Leaving out of account certain Government works whose permanent value is doubtful, the main new works and extensions opened down to 1942 employed in that year about as many workers as a leading pre-war industry such as general engineering or iron and steel. How much of this new employment can be permanently retained is uncertain; at least the buildings are likely in many cases to be of permanent value to the district. In view of this and of the degree of adjustment to modern market conditions attained before the war the outlook for manufacturing industries in the Black Country seems reasonably good, as long at least as full employment is maintained in the country as a whole; the Black Country's

¹ Chapter I, Table 3.

industrial structure still renders it particularly sensitive to cyclical depressions. It must be remembered in addition that the extremely bad housing conditions and disorderly planning of the Black Country make it one of the areas which should benefit most from the post-war building programme.

TABLE 85

DEVELOPMENT OF THE MAIN MANUFACTURING AND EXTRACTIVE INDUSTRIES OF THE BLACK COUNTRY, 1935-8

Industry	Insured workers, Black Country, 1935		Percentage growth or decline, 1935-8	
	No.	% of all insured	Black Country	Great Britain
Miscellaneous Metal Manufacturing	56,581	17.0	+ 9	+18
Stove, Grate and Iron Founding	19,436	5.8	+ 1	+ 9
General Engineering	15,864	4.8	+21	+22
Tubes	15,300	4.6	- 7	+ 7
Iron and Steel Smelting and Rolling ¹	13,475	4.0	- 3	+13
Coal Mining	11,883	3.6	+ 5	- 9
Motor and Cycle	10,159	3.0	+31	+36
Constructional Engineering	7,650	2.3	+32	+40
Electrical Apparatus	6,845	2.1	+12	+26
Leather Goods	6,546	2.0	-21	+ 4
Bricks, Pipes, and Tiles	6,127	1.8	+40	+ 7
		50.9		
All Industries and Services	—	100.0	+10	+6.5

From Wensley and Sargant Florence, *Recent Industrial Concentration in Review of Economic Studies*, June 1940.

This estimate should be treated with some caution. At the moment of writing the West Midland Group are still engaged on detailed inquiries into the economic future of the Black Country, and until these inquiries are complete a reliable estimate is impossible. It has been emphasized that the Black Country is an area of localized industries; it is perfectly possible for the towns which depend on one industry or group of industries to be depressed while the rest of the area is prosperous, as did in fact occur to some extent in the 'twenties.

The prospects for Birmingham are more definitely favourable. The forces on which Birmingham's prosperity before the war was built up—the rising standard of living, the increasing demand for accessories resulting from building programmes, and the growth of the motor, cycle, and electrical engineering and apparatus industries—

¹ Including the large Black Country re-rolling industry as well as primary production.

are far from being exhausted. There has been a considerable amount of new industrial building in and around Birmingham during the war, some of it on a very large scale; and, while not all of the new factories may be suitable for use in the long run, most could undoubtedly be used either to assist an expansion or to provide better accommodation for the many firms whose factories in the centre of the city are obsolete. There is evidence that advantage is likely to be taken of these opportunities; it is only in the case of some of the largest new works that there appears to be a serious possibility of difficulty in finding a permanent use. One or two large munition works were left vacant for some time after the last war, and the same may happen again. To offset these prospects of expansion there are only a few considerable possibilities of decline. There is some doubt over the future of the jewellery trade, whose labour force was cut by two-thirds in the first three years of war. The experience of the last war and the decline of the jewellery trade between 1923 and 1937 suggest that not all the ground lost during the present war may be regained.

There is one short-term problem—apart from the universal problems of re-starting normal production—which may cause some difficulty. There has been a considerable industrial immigration into Birmingham and its neighbourhood since the beginning of rearmament, and it is possible that enough of the immigrants may wish to remain to make a significant difference to the labour force available in Birmingham. It is not certain whether the volume of employment in Birmingham after the first years of reconstruction will be great enough, at least for a time, to enable these immigrants to be absorbed, and it is possible that a readjustment of the kind which followed the last war may be necessary. It is estimated that between 35,000 and 40,000 civilians moved into Birmingham between 1915 and 1918, following a considerable immigration in earlier years. Many immigrants left immediately after the end of hostilities. The remainder (or an equivalent number of Birmingham people) were squeezed out gradually over a period of years; between 40,000 and 45,000 people appear on balance to have left Birmingham between 1921 and 1926. This, however, is a speculation; the factors involved in estimating the size of any similar problem which may arise after the present war are too ill-defined for any accurate estimate to be possible. The experience of the last war serves only as a warning of a problem which may emerge.

In the long run, the most serious threat to Birmingham's prosperity lies perhaps in the possibility of cyclical depression in the motor industry. The motor manufacturing centres escaped lightly from the depression of the 'thirties owing to the immaturity of the British motor industry; there was still a very strong upward tendency in

demand, and as a result the absolute drop in annual output¹ between 1929 and 1931, the worst year of the depression, was no more than 5 per cent. In the United States, where the motor industry had reached a more advanced stage of development, the output of motor vehicles dropped between 1929 and 1932 by 75 per cent, and similar falls in the British motor industry are not out of the question if cyclical depressions are allowed to recur. A collapse of this kind would have serious effects in Birmingham, in view both of the size of the Birmingham motor industry itself and of the widespread ramifications of the demand for motor accessories.

Apart from this, the main industrial problems of Birmingham seem likely to be connected with physical re-development. Birmingham has very much the same need for physical re-development as most other big cities. A considerable amount of entirely new development is likely to be needed, including about 50,000 additional houses, apart from the replacement of existing unsatisfactory dwellings. Extensive development of the public services and of communal amenities is also needed. Probably over half the existing dwellings in the city should be replaced over twenty-five or thirty years, and an effort is needed to relieve the congestion of industry and population in Central Birmingham and to substitute a more orderly plan for the present confusion. The rapid growth of the built-up area before the war and the inadequacy of town-planning resulted in an increasing separation of homes and places of work, with a corresponding rise in the cost and loss of time in travelling, as well as in growing congestion in the central traffic area. The Bournville Village Trust showed shortly before the war² that 'the travelling time of the Birmingham worker is not yet excessive', and that there was little unnecessary travelling across the city centre; not much could be done to reduce the existing amount of travelling, and in any case the situation was not yet intolerable. At the same time, the average expenditure by a Birmingham family on Corporation transport alone—leaving out of account the railways and the Midland Red bus service—had risen to more than £10 a year by 1938-9, and the Bournville Trust's survey showed that between 35 per cent and 40 per cent of all residents in the outer ring of wards had to travel over three miles to work; it was obviously desirable to take steps at least to prevent any further increase in travelling. Quite apart from the problem of travelling, the built-up area of Birmingham was growing too large before the war, and efforts were being made to limit further growth by means of a green belt.

Though most of these problems and their solutions are irrelevant here, they do raise two relevant economic and administrative issues.

¹ In terms of the number of vehicles produced.

² *When We Build Again*, 1941.

One is the question of the control of the location of industry. Re-development is likely to involve the displacement of a number of small factories, usually in unsuitable premises, in the central slum districts of Birmingham, and their concentration into new industrial areas in the centre of the city with more satisfactory modern buildings; this should involve no special industrial problem. It may also be necessary to displace industries over greater distances, to a satellite town or towns on the outskirts of the city. In addition, it may be desirable in Birmingham's own interests, quite apart from any action which may be taken in the interests of potentially depressed areas elsewhere, to restrict the further growth of industry and immigration of the population in the city as a whole. It is out of these two possibilities that Birmingham's special concern with the problem of controlling the location of industry arises.

Birmingham's industrial prosperity has depended in the past very largely on a continuous process of growth, decay, and adaptation among the small firms which are still typical of most of the city's trades. The successful continuation of this process has been largely due to the environment—to the proximity of large numbers of small firms, with their associated force of skilled labour and their ancillary services. Conditions are very similar in many respects to those in East London, which are discussed below. There is a not unreasonable fear in Birmingham that rigid methods of controlling the location of industry may be adopted, in the interests either of physical planning or of potentially depressed areas, and that there may be excessive and unnecessary interference with the natural process of growth and decay among small industries, or with the environment on which it depends. There would be a good deal of support in Birmingham for measures to keep out of the city large firms entirely new to the area; an example is a large aircraft shadow factory built just before the war, which appears to have caused a great deal of local resentment. Large plants of this kind might be kept away; there would be considerable local suspicion of measures to control the location of smaller concerns.

There is little doubt that this suspicion would die down if there were a guarantee either that no rigid interference with existing industries or with the natural development of the smaller Birmingham firms would be allowed or that a general policy of full employment would be adopted, under which mistakes could be quickly rectified. For the moment there is a tendency in some quarters to regard all measures of physical or economic planning which may involve control of the location of industry as conspiracies to increase unemployment in Birmingham—a point of view which is clearly distinguishable in the Birmingham Corporation's evidence to the Barlow Commission.

The prospect of extensive re-development at Birmingham also

raises the question of regional planning. Birmingham has always, of course, co-operated with neighbouring authorities for various purposes, such as main drainage, transport, or various public utility services, and it has also taken part in the somewhat ineffective West Midlands Joint Town Planning Advisory Committee. The prospect of a considerable extension of Birmingham's development over its own boundaries and of the re-shaping of Birmingham itself has emphasized the need for more comprehensive joint arrangements for both economic and physical planning. On the economic side it is relevant to remember that Birmingham employs large numbers of workers from the Black Country, as well as from the districts to the east of the city, so that any substantial change in the scale or location of Birmingham industries is a matter of general interest to the whole region. In March 1943 the Birmingham City Council resolved that a joint planning authority with executive powers should be constituted for the whole of the West Midlands, and negotiations with this in view have since been proceeding.²

Coventry, the last of the three main sections of the metal-working district, is in many respects in the same position as Birmingham. There is no reason to suppose that Coventry's industries after the war will be unable to provide at least as much employment as before. There are undoubtedly certain possibilities of decline. The rayon industry may not employ as many as before the war; employment in this case depends not so much on market prospects as on decisions of policy which have not yet been taken. The future of the machine-tool industry, which accounts for a substantial part of the category 'General Engineering' in Table 84, is also obviously unsettled. In the long run there is no reason why it should employ fewer than before the war, and even in the short run the fact that the specialized needs of the motor industry have not been fully met during the war should result in a fair level of employment; but there is an evident risk that the high output of the war years may lead to difficulties in the first few years of peace. Against these possibilities of decline must be set the probability of a high level of demand in the dominant motor industry. An estimate quoted earlier¹ suggests that the long-term demand for private cars after the war may be 50 per cent or more above the level of 1938. With every allowance for improved efficiency in the motor industry and for a possible (and desirable) increase of production in other areas, especially some potentially depressed areas, employment in the motor industry at Coventry should be above the pre-war level.

This, however, may not be enough to ensure full employment at Coventry. In spite of air attacks employment at Coventry continued to increase during the first three years of war. A large number of

¹ Chapter II, p. 82.

² Unsuccessfully.

additional workers who came in from surrounding districts where industries were contracting as a result of the war are unlikely to wish to remain permanently employed in Coventry after the war; but there are many from the former depressed areas and from London and the South-east whose willingness to leave Coventry at the end of the war is less certain. On the analogy of other areas it might be expected that most of the immigrants would return as quickly as possible after the war; but Coventry's experience after the last war was not unlike Birmingham's, and the possibility of its repetition must be borne in mind. Any increase in the working population due to immigrants remaining would have to be set against the increase in the town's industrial capacity as a result of wartime development, which has been considerable; there has been a great deal of development in the districts just outside the town as well as in the town itself. Most of the new development is of a highly specialized type, and its permanent value is uncertain; but some at least should be capable of permanent use.

The most serious threat to the future prosperity of Coventry, even more than of Birmingham, lies in the danger of cyclical depressions in the motor industry. Birmingham still has a great variety of trades; Coventry is so highly specialized on the motor industry that the effects of a collapse such as occurred in the American motor industry would be catastrophic. Birmingham's relative immunity from the slump of the 'thirties was due to causes which remain at least partly operative, while Coventry's was due to accidental circumstances which are unlikely to be repeated.

THE CANNOCK CHASE AND WARWICKSHIRE COALFIELDS

The Cannock Chase and Warwickshire coalfields cover between them the part of Staffordshire immediately north of Birmingham and the Black Country and the northern corner of Warwickshire above Coventry. Mining is the dominant industry in both areas (Table 86), though the dependence on mining is much greater in Cannock Chase than in Warwickshire. Though the two fields are geologically separate they have many features in common. Their markets are similar; both alike normally dispose of most of their coal in London and the South-east, to which they are nearer than any other field except Kent. Costs in both fields were about the national level in 1939, and proceeds were high; with the possible exception of Kent these were the most profitable fields in Great Britain. Their combined output has remained remarkably stable since before the Great War. From 10,800,000 tons in 1913 it rose to 11,200,000 in 1924, fell back to 10,000,000 tons in 1929, and then rose again to 11,000,000 in 1937. Output in Warwickshire increased between 1913 and 1937; output in Cannock Chase fell from 5,800,000 tons to 5,300,000.

Stable output has been accompanied in recent years by falling employment. Employment in Cannock Chase rose from 20,000 in 1913 to 26,500 in 1924, and fell back to 21,000 in 1937; employment in Warwickshire rose from 19,000 to 22,000 and then fell back to 17,000. Mechanization had gone some distance by the outbreak of war, but had not yet reached its limit. Sixty-seven per cent of the output of Cannock Chase was cut by machine in 1939 and 52 per cent was mechanically conveyed below ground; the corresponding figures for Warwickshire were 72 and 70 per cent. In spite of mechanization and falling employment there was remarkably little unemployment in either field down to the war. Unemployment in the Cannock exchange area in typical months before the slump of the 'thirties was frequently lower than in any except the most prosperous districts of the South-east. It rose during the slump, though remaining well below the national level. At the peak of 1937 it was about the level of the London and South-eastern Divisions as a whole.

TABLE 86

CANNOCK CHASE AND NORTH WARWICKSHIRE COALFIELDS.
PROPORTION OF ALL OCCUPIED PERSONS (EXCLUDING THOSE
OUT OF WORK) IN CERTAIN INDUSTRIES

	Census of 1931. Proportion per 1,000		
	Cannock Chase	North Warwickshire	England and Wales
Agriculture	83	43	58
Mining, treatment of Non-metalliferous			
Mining Products	452	316	59
Bricks, Pottery, Glass	29	48	11
Metals, Engineering	42	92	106
Textiles	1	115	58
Clothing	19	62	47
Other Manufacturing (excluding Building)	32	35	102
Other Industries and Services	342	289	560
<i>Total Occupied Persons in Work:</i>			
Males	36,600	35,945	
Females	6,790	11,717	
<hr/>			
Total in Work	43,390	47,662	
Out of Work	3,122	4,812	

The Cannock Chase area includes Rugeley, Cannock, and Brownhills Urban Districts and Lichfield and Cannock Rural Districts. North Warwickshire includes the areas at the date of the Census of Nuneaton M.B., Bulkington U.D., and Tamworth, Atherstone, Nuneaton, and Foleshill Rural Districts. The present Bedworth U.D. was then part of Foleshill R.D.

Unemployment in the Tamworth, Atherstone, Bedworth, and Nuneaton exchange areas was higher, and on occasion rose above

the national level; but here also unemployment at several periods was lower than in London and the South-east.

One contrast between the two areas which stands out from Table 86 is in the proportion of women engaged in industry. The Cannock area has far less than the national proportion of women in paid work. In the country as a whole there were thirty-eight insured women workers aged 16-64 for every hundred insured men in 1938; the corresponding figure for the Cannock exchange area was nine. The proportion of women from the Warwickshire coalfield who obtained paid work was very much higher, largely as a result of the number who went to work outside the area. The Warwickshire field lies on the edge of the East Midland hosiery district—Hinckley is four miles from Nuneaton—and is also within easy reach of Coventry. The first rayon factory in Coventry was specially sited to draw on the reserves of women workers in the mining district round Bedworth. The apparent rate of unemployment among women in some of the mining districts was high before the war, largely because women working outside the area tended to have their insurance books exchanged at their place of work so long as they were in work, but registered at their home exchange when unemployed. This practice produced some surprising results; the apparent proportion of women unemployed at Bedworth has on occasion been over 100 per cent.¹

The future of these two coalfields appears to be reasonably assured. It seems probable that the Warwickshire field will continue to increase both its absolute output and its share in the output of the country as a whole, and in the two fields together output should at least not decline. Employment may well continue to fall slowly; but pre-war experience suggests that, so long as prosperity is maintained at Coventry and Birmingham, there is no reason to fear that a serious problem of unemployment will arise.

KIDDERMINSTER

The special interest of Kidderminster is that it is a textile centre attached to the West Midland metallurgical area. It looks towards Birmingham for its commercial and many of its other services, and it is geographically closest to the Black Country; but its problems are of a kind more familiar in the East Midlands than to the west of the main West Midland industrial district. Around 45 per cent of the insured workers in Kidderminster and Stourport in 1939 were engaged in carpet manufacturing,² which had been either stable or

¹ This curiosity is possible because the percentage of unemployment in a given year is calculated by reference to the number of workers whose books were exchanged at each office in the previous year; if the number of workers has risen since the last exchange of books apparent unemployment may be over 100 per cent.

² The exact percentage is uncertain, since the unemployment insurance books of workers at some firms in this area appear to have been exchanged elsewhere.

expanding since the end of the Great War. In the country as a whole employment in the carpet industry was stable or slightly falling during most of the 'twenties. A rapid rise began in 1931, and by 1937 the number of insured workers in employment was 25 per cent greater than in 1923 and 26 per cent greater than at the previous peak in 1929. Kidderminster shared in this expansion, and the increase of more than 10 per cent in its population between 1931 and 1938 (as compared with 3·2 per cent in the country as a whole) is some evidence of its prosperity. The main industries apart from carpet manufacturing were engineering, sugar-beet manufacturing, and paper. Sugar-beet manufacturing was, of course, seasonal, even when helped out by refining imported sugar in the off-season; about 550 workers were employed before the war at seasonal peaks and 350 at slack periods. Apart from this seasonal variation, employment in the main industries other than carpets appears to have been steady or increasing.

Kidderminster's industrial problems after the war seem likely to arise either in the short run or in the very long run; few difficulties are to be expected in the period from (say) three years after the war until twenty or twenty-five years later. Employment in the secondary industries seems likely to grow; a new engineering firm which has settled during the war and employs some hundreds is likely to stay, and employment in the other works is more likely to rise than to fall. In the light of pre-war experience there is every reason to expect that employment in the carpet industry will increase as a result of the post-war building programme. Ultimately, when building slackens, carpet manufacturing may decline, and measures will have to be taken to provide new employment in Kidderminster; but this is looking twenty or thirty years ahead. In the meantime there should be great local prosperity, unless there is a shift of the carpet industry to other centres; of this there seems to be little real danger.

In the short run Kidderminster carpet firms may find considerable difficulty in re-starting—more difficulty, in all probability, than firms in most textile trades, since the carpet industry has been almost entirely closed down. The problems of clearing and re-converting factories, of obtaining supplies of raw materials, of reassembling a labour force, and of ensuring a fair start to all firms are in themselves ephemeral. They have, however, the same long-term significance as the similar problems arising in the Potteries which were discussed in the previous chapter. The carpet trade's factories, equipment, labour relations, and general organization were all capable of improvement before the war, and the upheaval caused by the war has created an opportunity for reorganization of which at least some firms are known to be ready to take advantage. It is important that the opportunity should not be lost as a result of the confusion and ill-feeling which

might be caused by a failure to solve the problems of the first years of reconstruction in a satisfactory way.

THE WEST MIDLANDS AS A WHOLE

As a whole, the West Midlands are an area of middling or fair prospects. There is no danger of mass unemployment, or at least no danger of a kind which it should be difficult to avoid; on the other hand, there is not the same absence of difficult economic problems as in some parts of the East Midlands. There are the problems of persistent unemployment in some of the small industrial towns in the east of Shropshire, and possibly on a larger scale—the evidence on this is not clear—in parts of the Black Country. There is the possibility that wartime immigration may cause some difficulty at Birmingham and Coventry. There is the danger of severe cyclical unemployment in the industrial area of Shropshire and in most of the main metal-working area; and there are the short-term problems and the ultimate need for adjustment of the industrial structure of Kidderminster. There is the problem of the predominantly rural areas—one of the few problems common to the West Midlands and to parts of the East Midlands—and there is the need to make better use than in the past of the opportunities which Herefordshire, Shropshire, and Worcestershire offer for the tourist trade.

Looking at the area as a whole, the conclusions on policy which stand out most clearly are the need to prevent the recurrence of cyclical depressions and the importance of providing some form of regional planning and co-ordination. Birmingham and the Black Country always formed an industrial unit, and the unity of this area, together with Coventry, has been still further emphasized by the rise of the motor and electrical industries. The Cannock Chase and Warwickshire coalfields should strictly be regarded as part of the same area. The industrial problems of all these districts are interlocked, and it is impossible to deal successfully with the problems of any one part except by reference to the area as a whole; the problems arising out of the physical re-development of Birmingham are a clear illustration. These districts should probably have special planning machinery of their own. The problems of Shropshire, Herefordshire, and South Worcestershire are of a rather different kind; but it would probably be useful if these counties could be linked to the main industrial area through some form of joint planning agency. The problems of the district round Ironbridge and Oakengates bear an obvious relationship to those of parts of the Black Country, and might well be considered along with them. The rehabilitation of the predominantly agricultural districts is largely a matter for action on a national or local scale—local action including action by county authorities. In so far, however, as it involves the development of

new industries, it might usefully be considered in relation to the problems of the leading Midland centres of light industry; and the development of the tourist trade and of the spas at Malvern and Droitwich would probably be carried out faster and more effectively in co-operation with authorities in the industrial areas to which the improvement of these facilities would be of most immediate benefit. In view of all this, it may be hoped that the efforts of the Birmingham City Council to promote a joint regional planning authority with executive powers will ultimately be successful, whether or not the scope and machinery of the authority are of the kind originally envisaged.

CHAPTER XIII

THE SOUTH-WEST

THE areas covered by the Survey in the South-west—the Forest of Dean,¹ the Stroud Valley,² the Bristol area,³ Devon and Cornwall—lie on the outer edge of the zone of high prosperity defined on Map III.⁴ As a whole, they were moderately prosperous in the last years before the war. Some parts of the South-west were highly prosperous, and are likely to remain prosperous even if general economic conditions after the war are similar to those of the 'thirties: it is possible to show many districts, particularly in Devon or the Stroud Valley, in which the main problem is likely in any case to be more to control new development than to prevent unemployment. On the other hand, there are a number of areas which have been definitely depressed in recent years. About a dozen of the Ministry of Labour's exchange areas in Cornwall and the Forest of Dean appeared in the list of seriously depressed districts submitted by the Ministry to the Barlow Commission, along with two additional areas entered as depressed, but less urgently in need of assistance. In the Forest of Dean and in Cornwall as a whole population was falling in the last years before the war—it has been falling in Cornwall since the middle of the nineteenth century—and very high levels of unemployment were recorded during the slump of the 'thirties. The percentage of insured workers unemployed in 1932 reached 43 per cent at Redruth and 64 per cent in the worst hit of the three exchange areas of the Forest of Dean.

To these pre-war problems of new development and depression others have been added by the war and developments immediately before it. Severe air-raid damage at Bristol, Plymouth, and other towns has raised issues of re-development which, while they might in any case have come up for consideration in due course, would

¹ East Dean, West Dean, and Lydney Rural Districts; Lydney, Coleford, and Cinderford exchange areas.

² Stroud and Nailsworth Urban Districts, Stroud and Dursley Rural Districts.

³ The Bristol 'Urban Cluster' defined by Shannon and Grebenik, *The Population of Bristol* (National Institute of Economic and Social Research, 1943), including Bristol County Borough, Mangotsfield and Kingswood Urban Districts, and Whitechurch, Bishopsworth, Filton, and part of Almondsbury (Patchway) civil parishes. The statistics in Table 88 refer to the areas of the Bristol, Bristol Docks, Avonmouth, Eastville, Kingswood, and Westbury-on-Trym exchanges and offices of the Ministry of Labour. The statistics of Table 87 refer to the same area, together with an area extending to Clevedon, Portishead, Chew Magna, Keynsham, Thornbury, and Chipping Sodbury.

⁴ Certain inquiries were also made in mid-Somerset; but a full survey was not made in this area.

TABLE 87

BRISTOL, FOREST OF DEAN, AND STROUD VALLEY AREAS.
PERCENTAGE OF INSURED WORKERS IN EACH GROUP OF
INDUSTRIES, 1938

AREAS AS DEFINED IN A FOOTNOTE TO PAGE 359

	Bristol	Stroud Valley	Forest of Dean	Great Britain
<i>Number of Insured Workers, aged 16-64</i>				
Men	125,837	13,131	10,785	—
Women	44,187	4,301	907	—
Total	170,024	17,432	11,692	—
<i>Percentage of all Insured Workers, aged 16-64, engaged in each industry:</i>				
<i>Agriculture and Fishing</i>	2.6	7.7	6.5	5.0
<i>Mining and Quarrying</i>	1.4	0.1	48.4	6.4
<i>Manufacturing</i>	50.3	53.7	18.8	42.8
Bricks, Pottery, Glass	1.5	0.6	1.4	1.9
Chemicals	2.2	0.2	0.3	1.8
Shipbuilding and Repairing	0.6	0.2	—	1.1
Engineering	3.3	24.7	0.9	6.5
Vehicle and Aircraft Industries	12.0	0.8	0.8	3.1
Other Metal Industries	2.4	1.4	13.2	6.1
Scientific and Musical Instruments, Toys, Games, etc.	0.3	0.9	—	0.8
Textiles	0.4	12.2	—	7.3
Clothing, Boots and Shoes	4.5	6.2	0.2	4.3
Food, Drink, Tobacco	11.4	2.7	0.9	4.0
Woodworking, Furniture	2.4	3.4	0.7	1.8
Paper, Printing, etc.	8.7	5.2	0.2	3.2
Rubber, Leather	0.6	0.2	0.2	0.9
<i>Building and Contracting</i>	10.3	11.1	8.5	9.3
<i>Services</i>	33.8	13.4	16.6	35.1
Gas, Water, Electricity	1.8	1.6	0.4	1.5
Transport and Communication	8.1	2.1	3.2	5.8
Commerce, Banking, Insurance, etc.	0.4	0.1	0.2	1.8
Distribution	15.3	9.2	8.6	14.8
National and Local Government Service	2.6	1.8	1.9	4.1
Professions, Entertainments	2.4	1.7	0.7	2.5
Hotels and Laundries	3.2	1.9	1.6	4.6
<i>Miscellaneous Occupations</i>	1.6	4.0	1.2	1.4

certainly not have been considered so quickly or so fully if it had not been for the war. The growth of holidays with pay seems likely to involve a great expansion of the tourist trade in the South-west. On the other hand, the over-expansion (by peace-time standards) of the aircraft industry before and during the war may result in a certain amount of persistent unemployment at Bristol.

THE STROUD VALLEY AND THE FOREST OF DEAN

These two areas, though small—their combined population in 1938 was barely a hundred thousand—are of great interest. The Forest of Dean is possibly the oldest coalfield in Great Britain, and mining

has remained its dominant industry. In 1938 some 48 per cent of the insured workers at its three exchange areas were engaged in mining and quarrying, and the great majority of these were in coal mining, including slightly over half of all insured men. The only other important group of industries was metal-working, including an old-established tin-plate industry and more or less important groups of workers in cable manufacturing and the miscellaneous metal manufacturing and engineering trades. There was a considerable amount of tourist traffic.

Unemployment in the Lydney exchange area, where the area's one tinplate works is situated, was as often below as above the national average in the years before the war. Tin-plate production was well maintained relatively to the rest of the industry; the Lydney works provided 3.1 per cent of the national output in 1934, when the national output was moderate, and 3.6 per cent in 1938, when the tinplate industry as a whole went through a severe slump. In the Coleford and Cinderford exchange areas, where mining is relatively more important, there was severe unemployment during the 'thirties; in the worst months over half the insured workers round Cinderford and three-quarters of those around Coleford were out of work, and unemployment remained well above the national level even at the peak of the boom of 1937. There was little opportunity for women to go out to work to provide an alternative family income, since even in 1938 there were little more than eight insured women workers to every hundred insured men¹ in the Forest of Dean as a whole, as against thirty-seven in the country generally. There was considerable emigration, and between 1931 and 1938 the population of the Forest of Dean as a whole fell by 3 per cent.

There is no reason to think that the output of the Forest of Dean coalfield will be smaller after the present war than it was before—or, indeed, than it was thirty years ago. Working conditions are difficult, costs are high, and output per man-shift is low; but almost the entire output is disposed of locally, and the relatively high price obtained in local markets has made it possible to produce a steady output (apart from cyclical slumps) at a moderate profit. There is some doubt whether the pre-war output can be maintained for more than fifteen or twenty years; but there appears to be little danger of a drop in the immediate future.

While output may be maintained, it is by no means certain whether employment will follow the same course. Employment fell by about a quarter between 1924 and 1929, and by a further tenth between 1929 and 1937; output was approximately the same at all three dates. Mining employment may well fall further, and, seeing that there is also a threat to the local tin-plate industry, as a result of competition

¹ Aged 16-64.

from the new plant at Ebbw Vale and possibly from new strip mills in the Western sector of South Wales, an effort is clearly required both to bring in new industries and to develop existing industry and the tourist trade. While priority should be given to new employment for men, there still remains a need for additional permanent employment for women. The number of women in the Forest of Dean engaged in manufacturing industry, and therefore possessing at least a minimum of industrial experience, increased by several hundreds in the first years of war, and the existence of this trained or at least partially trained labour force should do much to facilitate the attraction of new industries.

In recent years local efforts to develop new sources of employment have been organized through the Development Association of the Royal Forest of Dean, which is constituted on the lines usual in all parts of the country, with representatives of the local authorities, including the Gloucestershire County Council, and of the leading local interests. To quote the County Planning Officer for Gloucestershire, acting also as Surveyor to the Development Association:

'An effort has been made by the Association to introduce new industry, and with some success, since new industry to the value of £1½ millions has been secured, largely as a result of advertising and the publication of a brochure. But industry is not the only consideration; schemes are in hand to provide hotels and restaurants; a camping ground has been laid out and others projected with a view to opening up the Forest of Dean as a National Park.' (Address to the National Housing and Town Planning Council, October 7, 1943.)

Measures intended to encourage industrial development include the provision of small industrial estates at several points in the Forest, with factories to let as well as to sell, and facilities for the advance of capital to industrialists up to £50,000.

The Stroud Valley has been one of the main centres of the West of England woollen industry for several hundred years, and the production of fine woollen cloth remained one of its leading industries down to the outbreak of war. Altogether about two thousand of the 17,400 insured workers in the area in 1938 were engaged in textile manufacturing. In the course of time a variety of other industries also accumulated. At the outbreak of war one part of the district, round Dursley, depended overwhelmingly on a single large engineering firm¹ and an offshoot of it, which employed between them nearly 60 per cent of the insured workers in the Dursley exchange area. Round Stroud and Nailsworth a greater variety of industries grew up, attracted in several cases by the availability of disused textile

¹ R. A. Lister and Co. Ltd.

mills. Wholesale tailoring, printing, paper manufacturing, saw-milling, leather board, walking-stick and umbrella and pin and hairpin manufacturing, brush-making, plastics, and engineering are the main groups. As a whole, they made up a remarkably well-balanced economy, with adequate employment for women as well as for men; in the area as a whole there were thirty-three insured women workers¹ to every hundred insured men in 1938, or little less than the national proportion, while in the Stroud and Nailsworth exchange areas the proportion was thirty-nine to every hundred. In the area as a whole engineering, the largest single group, employed about a quarter of all the insured workers; but two-thirds of the engineering employment was at Dursley, and round Stroud and Nailsworth engineering was merely one of a number of manufacturing trades each employing some hundreds.

Unemployment at Stroud itself was rather higher during the 'thirties than in the South-east, though below the national level; unemployment at Dursley was as low as in the most prosperous districts of the South-east, and the leading local engineering firm was taking on men from the depressed areas even in the worst years of the slump. There is no reason to suppose that post-war experience will be less favourable; it is much more probable that the opposite will be true. Dursley's dependence on a single engineering firm makes it at first sight particularly vulnerable to a possible post-war depression; but the wide variety of this firm's products constitutes a balanced economy in itself, and neither experience during the slump of the 'thirties nor developments during the war suggest that there is any reason to fear for the future. In the Stroud Valley itself at least one large new firm, employing several hundreds, has been permanently established as a result of dispersal from the London area, and inquiries among other firms suggest that, as a whole, the older industries of Stroud and its neighbourhood are more likely to expand considerably than to contract.

There are likely to be a number of short-term problems of readjustment; concentration has fallen heavily on some of the local industries, particularly clothing and textiles, and it is feared locally that some firms may lose ground to their competitors in the early stages of reconstruction as a result of the slowness of Government departments in relinquishing their control of premises. In the longer run there are likely to be difficulties over housing and public utilities. Some of the local public utility services were inadequate even before the war, and improvements have had to be made as a result of the wartime expansion of industry; a big drainage scheme for Stroud and the neighbouring districts which was planned before the war is likely to be put into force as soon as labour and materials are available.

There may in addition be some shortage of labour, particularly in some of the older industries in which wage-scales have traditionally been lower than in some of the firms which have come in during the war. A certain amount of competition in wage standards is not altogether undesirable, and it is doubtful whether any real shortage of labour is likely to be experienced; there has been a substantial increase during the war in the number of women engaged in industry, and it is possible that at least part of this may prove permanent. There are, finally, important problems of physical planning. These are all problems of development, not of depression, and should not be difficult to overcome.

BRISTOL

The Bristol area defined for the purposes of Table 87 contained in 1938 about 170,000 insured workers aged 16-64, of whom approximately 90 per cent worked¹ in the area immediately round Bristol itself to which the statistics of Table 88 refer. Over the fifteen or sixteen years before the war the number of insured workers attached to Bristol manufacturing industries other than aircraft appears to have changed very little; in the industries shown in the table there appears to have been a slight decline, equivalent to about 1 per cent of the total insured population of the area in 1923. The biggest single change was in the cocoa and chocolate group, in which comparison with 1923 is confused by the transfer of one large plant to a site outside the area covered by Table 88. In the Bristol area as defined for Table 87 the number of workers attached to this group appears to have fallen by upwards of 3,000; but there are no exact figures. The share of Bristol firms in the national output of men's footwear (the main speciality of the Bristol boot and shoe industry) fell from 5.9 per cent in 1924 to 4.1 per cent in 1935,² and the proportion of the national output of women's shoes produced in Bristol fell from 2.8 to 1 per cent. The value of all footwear made in the Bristol area fell by 52 per cent in the same period, against a national fall of 21 per cent, and between 1923 and 1937 the number of insured workers attached to this trade in Bristol fell 38 per cent. There were other important falls in tailoring and the tobacco industry. These falls were not quite offset by a rise in employment in non-ferrous metal manufacturing, as a result of developments at Avonmouth, and smaller rises in engineering, furniture manufacturing, printing, and the cardboard box and stationery group.

The effects of the fall in the number of insured workers in the manufacturing industries named in Table 88 were aggravated by a fall in the number of workers attached to the port services, although in the years before the war Bristol more than held its own as a port.

¹ Or at least had their insurance books exchanged.

² In terms of the number of pairs produced.

TABLE 88—BRISTOL

Estimated Number of Insured Persons, aged 16-64, July 1923 and July 1937

Industry	Estimated No. of insured persons aged 16-64		Increase (+) or Decrease (-) 1923-37		No. in each industry as % of all insured persons at July 1937	
	July 1923	July 1937	No.	%	Bristol	Great Britain
Motors, Cycles, Aircraft . . .	3,060	13,610	+10,550	+345	9.4	2.6
General Engineering . . .	3,140	3,920	+ 780	+ 25	2.7	4.6
Non-ferrous Metal Manufacturing . . .	460	2,070	+ 1,610	+350	1.4	1.0
Tobacco . . .	8,650	7,690	- 960	- 11	5.3	0.3
Cocoa, Chocolate, etc. . .	7,600	2,260 ¹	- 5,340	- 70	1.6	0.6
Cardboard Boxes, Stationery, etc. . .	6,320	7,500	+ 1,180	+ 19	5.2	0.5
Chemicals . . .	3,590	3,540	- 50	- 1	2.4	1.7
Printing, Publishing, etc. . .	2,070	3,250	+ 1,180	+ 57	2.2	2.1
Boots, Shoes, etc. . .	5,050	3,110	- 1,940	- 38	2.1	1.0
Tailoring . . .	4,430	2,900	- 1,530	- 35	2.0	1.6
Furniture, etc. . .	1,560	2,680	+ 1,120	+ 72	1.9	1.1
Dock, Harbour, etc. . .	5,330	2,870	- 2,460	- 46	2.0	1.2
Building . . .	8,400	13,600	+ 5,200	+ 62	9.4	7.7
Public Works Contracting . . .	2,960	2,660	- 300	- 10	1.8	2.2
Distribution . . .	14,150	24,370	+10,220	+ 72	16.8	15.2
Hotels, etc. . .	1,710	2,940	+ 1,230	+ 72	2.0	3.3
Laundries, Cleaners . . .	1,050	2,140	+ 1,090	+104	1.5	1.3
Gas, Water, Electricity . . .	1,590	2,580	+ 990	+ 62	1.8	1.6
Tram and Bus Service . . .	2,410	2,760	+ 350	+ 15	1.9	1.5
Other Road Transport . . .	1,930	2,460	+ 530	+ 28	1.7	1.5
Other Industries and Services . . .	36,120	36,030	- 90	nil	24.9	47.4
<i>Total . . .</i>	<i>121,580</i>	<i>144,940</i>	<i>+23,360</i>	<i>+ 19</i>	<i>100.0</i>	<i>100.0</i>

From the Ministry of Labour's evidence to the Barlow Commission.

Exports, which are relatively unimportant to Bristol, were considerably smaller in both value and volume in 1937 than in 1913; a rise during the 'twenties was followed by a sharp fall, during which iron and steel exports, which had accounted for nearly half the total, dwindled to practically nothing. The fall in exports was much more than offset by a rapid rise in imports; the value of imports into Bristol was nearly twice as great in 1937 as before the last war, and the combined value of imports and exports rose from 1.7 per cent of the corresponding national figure in 1913 to 2.3 per cent in 1937.

¹ The decrease is largely due to the removal of an important factory to a site outside Bristol. In 1938 there were 4,280 insured workers in this group in the wider Bristol area used in Table 87.

The volume of shipping arriving at Bristol rose from 2·7 million tons in 1913 to 3·5 million in 1929 and 3·7 million in 1937, a small drop in arrivals in the coastal trade being much more than offset by a rapid increase in arrivals in the foreign trade; Bristol's share in the tonnage entering all United Kingdom ports in the foreign trade rose over the same period from 1·9 to 2·9 per cent. In spite of this relatively good record the labour force attached to the port fell heavily during the 'twenties and 'thirties.

Employment in the small Bristol coalfield, which lies partly inside and partly outside the area covered in Table 89, fell from 2,300 in 1923 to 300 in 1937, when only one mine remained at work. It is doubtful whether the reserves of accessible coal are great enough to enable even this mine to continue in production for more than a few years after the war.

TABLE 89
TRADE OF THE PORT OF BRISTOL

Shipping entered with Cargoes or in Ballast: Million net tons:

	1913	1924	1929	1937
<i>Bristol</i> : foreign trade . . .	1·5	2·4	2·6	2·7
coastal trade . . .	1·2	1·0	1·0	1·0
<i>Total</i> . . .	2·7	3·4	3·5	3·7
<i>U.K.</i> foreign trade . . .	82·1	87·1	96·6	94·1
coastal trade . . .	65·3	47·2	55·2	65·4
<i>Total</i> . . .	147·4	134·3	151·8	159·5

Value of Imports: £ millions:

<i>Bristol</i> . . .	18	35	31	34
<i>United Kingdom</i> . . .	769	1,277	1,221	1,028

Value of Exports: £ millions:

<i>Bristol</i> : U.K. produce . . .	4·0	5·4	3·8	1·5
Imported goods . . .	nil	0·3	0·5	0·1
<i>U.K.</i> : U.K. produce . . .	525·3	801·0	729·3	521·4
Imported goods . . .	109·6	140·0	109·7	75·1

From the *Statistical Abstract*.

The fall between 1923 and 1937 in the number of workers engaged in coal mining, the port services, and manufacturing industries other than aircraft was greatly outbalanced by the rise in the number engaged in building and the other service industries; the number of workers in the eight groups specified in Table 88 increased over this period by 19,300, the equivalent of nearly 16 per cent of the number of insured workers in the area in 1923. The other main increase in employment, smaller in numbers but carrying with it greater problems for the future, occurred in the aircraft industry. The

number of insured workers in the motor, cycle, and aircraft group increased between 1923 and 1937 by more than 10,000, the great bulk of the increase occurring after 1934. The number of adult men insured in the motor, cycle, and aircraft group was 4,065 in 1931, and no more than 4,350 in 1934; by 1937 it had risen to 10,880.

As a result of these increases in building, the other service trades, and the aircraft industry, the Bristol area experienced a fair measure of prosperity before the war. In the late 'twenties unemployment tended to be rather above the national level, though not far above it. A fair impression of the level of employment in Bristol relatively to the rest of the country is given by the local population statistics; over the decade from 1921 to 1931 the inducements to move into or out of the Bristol conurbation appear to have been almost exactly equal, and the net balance of migration was practically negligible.¹ During the early 'thirties the high proportion of Bristol workers in the service trades and in manufacturing industries such as tobacco, chocolate, or boots and shoes, which were relatively lightly hit by the depression, kept the level of unemployment in Bristol below the level for the country as a whole. From 1934 onwards the rapid development of the aircraft industry held unemployment in Bristol below the national level, and at the same time induced a certain amount of immigration. It is estimated that between the middle of 1934 and the middle of 1938 there was a net inward movement of about 7,000 migrants, as compared with the net inward balance of little over 4,000 in the whole period from 1921 to 1934. The aircraft industry was the main attraction for the immigrants; 31 per cent of all adult men in Bristol in 1938 whose insurance books originated in other parts of the country were engaged in the motor, cycle, and aircraft groups, in which they provided over a quarter of the adult male labour force.² Considerable numbers also went to the two largest expanding service occupations, distribution (12 per cent of all immigrants) and building and public works contracting (17 per cent).

The war has brought considerable changes to Bristol, including severe air-raid damage and a sharp fall of population. There has been a certain amount of industrial damage through air raids, and a measure of dispersal of industries. There has also, as in other areas, been a considerable re-shuffling of employment. The most spectacular increases have been in the aircraft industry and in Government service; smaller increases (in amount, not necessarily in proportion to pre-war employment) have occurred in several other groups, notably shipbuilding and repairing. There has been a change in the importance of the Port of Bristol relatively to the British ports as a whole. In the face of these developments it has not been easy to form a clear impression of the industrial future of this area; in

¹ Shannon and Grebenik, *The Population of Bristol*, 1943.

² *id. ib.*

particular, pre-war trends cannot be taken as an altogether reliable guide to future conditions. To quote one local comment:

'There is an almost insoluble difficulty in basing future prospects for this area on the trends obtaining up to 1938. Certainly round here these trends have in the last few years developed such a kink that return to pre-war norms seems very unlikely.'

It has nevertheless been possible to form at least a general impression of the main problems.

It is clearly the growth of the aircraft industry which constitutes the main problem for Bristol's immediate future. There is every reason to expect that employment in the motor, cycle, and aircraft group after the war will be several thousands smaller than in 1938, when the number of insured workers in this group was about 4,000 greater than in 1937, and it is not impossible that even the 1937 level of employment may prove too high to maintain. A decline of this kind would have less widespread effects in Bristol than in (say) the West Midlands, since the nature of Bristol's older industries has prevented the aircraft industry from drawing on local firms for components to the extent which would have been possible in a light engineering area. Some manufacturing firms in the Bristol area would undoubtedly be affected by a decline in employment in the aircraft industry; a firm making light alloy castings and forgings for aircraft is a case in point. But cases of this kind are exceptional; in general, the effects of a decline in employment in aircraft manufacturing are likely to be confined to the aircraft workers themselves, with some repercussion on the service occupations engaged in supplying their needs. Even so, the decline of the aircraft industry is likely to create a difficult enough problem. Part of the greatly increased labour force drawn in during the war will presumably go back (more or less willingly) to other work, and perhaps a tenth may drop out of the labour market altogether; a rather larger number may move or return to other parts of the country. But it seems probable that there will be a surplus of some thousands of workers in and around Bristol for whom new work will have to be found.

A surplus of (say) 7,000 would be equivalent to no more than 5 per cent of the insured population of Bristol¹ in 1937, and even a surplus of double this amount would scarcely put Bristol in the same class of depression as South Wales. It might nevertheless cause a serious measure of depression, and all the more so since the effects of the pre-war expansion of the aircraft industry were largely concentrated on the Northern fringe of the city, where the population increased by nearly 50 per cent between 1931 and 1938; the effects of decline would presumably also be largely concentrated there.

¹ As defined for Table 88.

Whether depression actually materializes depends on what happens to other Bristol industries. There is no reason to suppose that the rapid expansion of building and the other service industries will be reversed, and in the case of building there is every reason to expect that it will be carried a good deal further. Air-raid damage has to be made good, and there is also the possibility of extensive redevelopment of the city and the area round it to which reference is made below. An increase of even 20 per cent over the 1938 level in the number of workers engaged in building, public works contracting, and electrical wiring and contracting in the Bristol area as defined for Table 87 would provide 3,500 additional jobs, nearly all for men. A further increase in employment in the service trades is also possible. In the case of the port and of the older manufacturing industries it is difficult to make any accurate prediction. There is on balance no reason to expect any great change in the employment provided by the older manufacturing industries, though some of them may experience short-term difficulties in re-starting after the war. The port may well have more traffic than before the war, or at least a larger share of the traffic in the country as a whole; but pre-war experience suggests that this may not involve an increase in employment.

On the whole, the older manufacturing and service industries, including building, seem likely to provide a substantial increase in employment to offset against the decline in the aircraft industry. It is estimated¹ that the population of working age at Bristol will be practically the same in 1952 as in 1937, apart from migration; there is unlikely to be any natural increase, and accordingly the whole increase in employment in the older industries can be offset against the decline in aircraft.

It is possible that there will be substantial changes in the location of industry within the Bristol area (in the wider sense) even in the absence of official measures of encouragement. Reference has been made to the transfer of a large cocoa and chocolate concern to a site outside the city during the period after the last war; air-raid damage during the present war has brought up the possibility of other similar moves. To some extent the wartime dispersal of industry seems likely to contribute to this. From the point of view of technical efficiency Bristol firms' experience of dispersal into small producing units has in many cases been unsatisfactory; but it is possible to quote other cases in which the efficiency of production has not diminished, or has even increased, and where there is a possibility that dispersal will be continued as a normal peace-time policy. Any extensive decentralization or dispersal of Bristol industry would of course raise considerable problems of housing and general development in the areas affected. Housing in the Bristol area outside the

¹ Shannon and Grebenik, *op. cit.*

city and its immediate neighbourhood appears to have been reasonably adequate before the war, at least in quantity; but great difficulty has been experienced during the war in housing 'marginal' labour drawn in as a result of the expansion of war industries. It is known that schemes for developing satellite towns round Bristol have been considered both in Bristol itself and by the Gloucestershire County Council; but no decision has yet been made public.

DEVON AND CORNWALL

Devon and Cornwall have many features in common. Both are largely agricultural, and have strong historic associations with seafaring, and in recent years both have come to depend increasingly on the tourist trade. Alongside these similarities there are a number of marked contrasts between the economic structure of the two counties (Table 90), which have reflected themselves in the general rate of development and of population growth. Devon has the naval base at Plymouth, a rather wider range of manufacturing industries than Cornwall, and a relatively large share in the tourist trade; Cornwall has depended more on agriculture, fishing, and mining, including particularly the tin-mining industry, which in recent decades has been severely depressed. The small proportion of tin-miners shown in Table 90 under-estimates the importance of this industry to parts of Cornwall, since the Census figures relate only to men actually in work at a date when the industry was near its lowest point. As a result of the difference in economic structure there has been a great difference in the rate of change of the population of the two counties. In the middle of the nineteenth century Cornwall contained nearly 40 per cent of the population of the two counties together. Since the Census of 1861 each decade, with the single exception of the decade from 1901 to 1911, has shown a fall in the population of Cornwall, which by 1938 was estimated at no more than 310,000 against 369,000 in 1861. The population of Devon grew over the same period from about 585,000¹ to 742,000, and by 1938 the share of Cornwall in the combined population of the two counties had fallen to less than 30 per cent.

(a) *Plymouth*.² Devon presents two essentially different though related problems of reconstruction, one affecting the naval base at Plymouth and the other concerning the rest of the county. Plymouth's overwhelming dependence on naval (and, to a smaller extent,

¹ Approximate figure, allowing for a slight difference between the area of the Ancient County of Devon, for which statistics are given before 1891, and the Administrative County with associated County Boroughs, to which statistics from 1891 onwards relate.

² Plymouth County Borough, including the three historic towns of Plymouth, Stonehouse, and Devonport. Table 91 refers to Plymouth Ministry of Labour exchange area.

TABLE 90

DEVON AND CORNWALL. PROPORTION OF ALL OCCUPIED PERSONS (EXCLUDING THOSE OUT OF WORK) IN EACH INDUSTRY. CENSUS OF 1931. PROPORTION PER 1,000

	Cornwall	Devon (exclud. Plym'th)	Plymouth C.B.	England and Wales
<i>Fishing</i>	21	4	4	2
<i>Agriculture</i>	201	171	4	58
<i>Mining, Quarrying, Treatment of Non-metalliferous Mining Products</i>	62	12	3	59
<i>Tin and Copper Mining</i>	6	—	—	—
<i>Stone Quarries (not owned by Local Authorities)</i>	18	5	1	2
<i>Slate Quarries</i>	4	—	—	1
<i>Clay, Gravel, etc.</i>	33	5	—	1
<i>Manufacturing</i>	119	138	249	321
<i>Shipbuilding, Marine Engineer- ing, etc.</i>	17	5	124	7
<i>Other Metal-working and Engin- eering</i>	31	30	22	99
<i>Bricks, Pottery, Glass</i>	1	6	1	11
<i>Chemicals</i>	4	3	7	12
<i>Textiles</i>	7	10	3	58
<i>Clothing</i>	19	25	31	47
<i>Food, Drink, Tobacco</i>	19	24	29	34
<i>Woodworking, etc.</i>	11	13	11	14
<i>Paper-making, Printing, etc.</i>	6	16	17	25
<i>Other Manufacturing</i>	2	6	5	18
<i>Building, etc.</i>	57	78	43	51
<i>Public Administration and Defence</i> .	92	90	276	83
<i>Personal Service</i>	177	228	114	135
<i>Other Services</i>	267	275	306	289
<i>Miscellaneous Occupations or Un- classified</i>	4	4	2	2
<i>Total Population, aged 14 or over</i> .	252,500	422,700	162,800	—
<i>Unoccupied or Retired</i>	121,400	195,000	71,800	—
<i>Unoccupied or Retired, per 1,000 aged 14 or over</i>	481	461	441	393
<i>Occupied:</i>				
<i>In work</i>	118,500	215,300	81,600	—
<i>Out of work</i>	12,700	12,400	9,300	—
<i>Out of Work as % of all Occupied</i> .	9.6	5.5	10.3	11.5

military and R.A.F.) activity appears clearly from Table 90. Exactly 40 per cent of the occupied population of Plymouth actually in work in 1931 were engaged in the two groups 'Public Administration and Defence' and 'Shipbuilding and Marine Engineering', as compared with 11 per cent in the country as a whole. The number directly engaged in the category 'Defence' was 17,200, or 21 per cent of the occupied population in work. In and around Plymouth there was also a substantial population of naval and military pensioners. Plymouth is an important centre of the distributive trades, and there were a

few minor industries in and about the town before the war—some small clothing factories, printing, general engineering, some employment in the food and drink group, and in handling and processing imported oil and timber, and, outside the town, quarrying—and there was some commercial use of the port. Imports amounted in 1937 to £2·7 millions, the main items being grain, timber, and oil. Exports of United Kingdom produce amounted to £151,000, and exports of imported merchandise to £68,000. As a trading port Plymouth is comparatively unimportant, though a good deal more important than some of the other naval bases, particularly Portsmouth; in a list of British ports ranked in order of the volume of trade handled Plymouth would come somewhere between Weymouth and King's Lynn. All Plymouth's industrial and commercial port activities taken together were a very small matter before the war by comparison with the employment provided directly and indirectly by the Services.

TABLE 91—PLYMOUTH
ESTIMATED NUMBER OF INSURED WORKERS, AGED 16-64,
JULY 1923 AND JULY 1937

Industry	Estimated No. of insured persons aged 16-64		Increase (+) or Decrease (-) 1923-37		No. in each industry as % of all insured persons at July 1937	
	July 1923	July 1937	No.	%	Plymouth and Devon-port	Great Britain
Shipbuilding, etc. . .	4,060	6,130	+ 2,070	+ 51	11·3	1·2
Marine and Construc- tional Engineering . .	2,350	3,780	+ 1,430	+ 61	6·9	0·7
Chemicals	920	1,200	+ 280	+ 30	2·2	1·7
Tailoring	1,690	1,200	- 490	- 29	2·2	1·6
Printing, Publishing, etc.	990	1,190	+ 200	+ 20	2·2	2·1
Building	2,970	6,010	+ 3,040	+102	11·0	7·7
Public Works Contracting	1,470	1,330	- 140	- 10	2·5	2·2
Electrical Wiring and Contracting	150	1,620	+ 1,470	+980	3·0	0·3
Distribution	8,940	11,900	+ 2,960	+ 33	21·8	15·2
Hotels, etc.	1,240	2,200	+ 960	+ 77	4·0	3·3
Laundries, Cleaners, etc.	750	1,210	+ 460	+ 61	2·2	1·3
Gas, Water, Electricity .	1,170	1,030	- 140	- 12	1·9	1·6
Other Industries and Ser- vices	17,380	15,740	- 1,640	- 9	28·8	61·1
Total	44,080	54,540	+ 10,460	+ 24	100·0	100·0

From the Ministry of Labour's evidence to the Barlow Commission.

The general course of development in insurable trades at Plymouth during the 'twenties and 'thirties is illustrated by Table 91. The number of insured shipyard and marine engineering workers increased between 1923 and 1937 by more than 50 per cent, as a result of developments at the dockyards. In the three manufacturing groups shown there was no significant net change. In the service trades and in building there was the same rapid expansion as in the rest of the country. Taking all groups together, the number of insured workers at Plymouth and Devonport increased between 1923 and 1937 by 24 per cent, against 22 per cent for Great Britain as a whole. The impression of prosperity about the national average given by these figures is confirmed by unemployment statistics; unemployment at Plymouth was sometimes above the national average and sometimes below it, but rarely far from it. During the worst years of the 'thirties unemployment among insured workers at Plymouth tended to be below the national average, since cuts in naval expenditure were felt principally by private shipbuilders, not in the dockyard towns; payments by the Admiralty to its own dockyard workers fell less than 20 per cent between the best year of the late 'twenties and the worst year of the slump, while payments to outside contractors were halved.¹ The last line of Table 90 suggests that a comparison in terms of unemployment among all categories of workers might be less favourable to Plymouth; but statistics on this are inadequate.

The economic future of Plymouth still depends principally on the Services, and there have been serious local fears that, as a result of experience during the war, the naval base may be wholly or partly removed elsewhere. Various possibilities of alternative employment have been considered locally—the development of the commercial use of the port, the establishment of a base for international air transport, large-scale development of the tourist trade, the revival of fishing, or the introduction of new manufacturing industries—without revealing much prospect of rapid development on a scale sufficient to compensate for a substantial reduction in Service activity. The practicability and desirability of either an air base or extensive commercial development of the harbour are doubtful; in the case of harbour development substantial new works would be needed, and it is doubtful (apart from any other issues) whether any great increase in the trade of Plymouth could occur without an unjustifiable interference with the established trade of the ports at Bristol and Southampton. The tourist industry offers better prospects, and new manufacturing industries could undoubtedly be attracted. There is evidence that new industries would have come to Plymouth in the years before the war if more local effort had been made to meet

¹ Bretherton, Burchardt, and Rutherford, *Public Investment and the Trade Cycle in Great Britain*, p. 409. 1941.

their needs; but Plymouth suffers to a certain extent from the same disadvantages from an industrial point of view as the rest of Devon, and, while these disadvantages can be overcome, as is happening with the disadvantages of many of the former depressed areas, a big national as well as local effort would be needed to secure rapid industrial development.

The fears which set going suggestions of this kind have been largely set at rest; it appears that the dockyard is to remain, and that its area (not necessarily, of course, its employment—its present area is too cramped for even its pre-war employment) is likely to be increased. While this in itself is satisfactory, it is important that the suggestions which have been made for the diversification of Plymouth's economy should not as a result be forgotten. Even in the immediate future, after the end of the war with Germany and Japan, it is by no means certain that armament demand will be strong enough to take up the slack of unemployment in Plymouth which existed in the 'twenties and most of the 'thirties. In the long run armament demand is subject to both political and technical influences which will not necessarily work to Plymouth's advantage. In the short and the long run alike, it is important that there should be more elasticity—more opportunity for developing rapidly in new directions—than the present narrow industrial basis of Plymouth provides. It may not be necessary to build up large new industries, though there may be extensive developments in certain directions, especially in the tourist trade; the chief need is for a variety of industries, providing a nucleus—of managerial experience, of skilled or experienced workers, and of experience on the part of managements, local authorities, and others concerned of the way to provide technical training or ancillary services—from which it would be possible to develop rapidly should the need arise. The proposals of the City of Plymouth Plan (published in the spring of 1944¹) for the development of small-scale manufacturing industries, preferably employing in the first place workers in categories not required by the dockyard, appear to be on the right lines; food processing industries, pottery, and possibly the boot and shoe industry or some sections of the plastics industries are suggested as examples of the type of industry required.

The main immediate problem of Plymouth is to rebuild the city after the severe air-raid damage experienced during the war. Even from a purely economic point of view the permanent effects of air-raid damage may be considerable. Damage to manufacturing industry seems unlikely to have much permanent effect; but damage to

¹ Presented to the City Council in April 1944 by the City Engineer and Professor Sir Patrick Abercrombie. The Plan covers an area of about 140 square miles in and around Plymouth.

shopping and other areas seems likely to lead to a reconstruction of Plymouth, on lines proposed in the City of Plymouth Plan, which should greatly increase the city's attractions as a tourist centre and a centre of distribution. The importance of the last factor is obvious enough from Table 91. In addition to its long-term effects, rebuilding and re-development will presumably result in an immediate and substantial increase in employment in the building trade.

(b) *Devon outside Plymouth.* Devon outside Plymouth was generally prosperous before the war, though it was not altogether without problems. There was a good deal of seasonal unemployment in tourist centres; at Ilfracombe, for example, the proportion of workers unemployed rose from 5.7 per cent at the end of the best quarter of 1937 to 15.1 per cent at the end of the worst, while the corresponding rise for Bideford was from 11.9 to 20.2 per cent. There was also the same tendency towards the depopulation of agricultural districts as in other counties. The existence of these problems did not prevent the growth of a general atmosphere of prosperity and development, particularly in the coastal districts; the average annual unemployment in the area as a whole was low, usually about the average for London and the South-east, and even the depression of agriculture was less marked than in most other parts of the country.

Manufacturing industry is of limited importance in this area as a whole, though there are a number of firms of great importance to their own districts. In normal times there is a certain amount of small-scale ship- and boat-building along the coast, notably at Dartmouth, and some engineering and other metal-working scattered over the county. Three Exeter firms in engineering and related trades, including a firm of gas engineers serving a national market, normally employ several hundred workers each, and the G.W.R. works at Newton Abbot are on much the same scale. Newton Abbot is a minor industrial centre in which the G.W.R. works, though the most important in the town, are by no means alone. Tiverton depends largely on a single firm of lace-net manufacturers, and Buckfastleigh on the C.W.S. woollen mills. There are several pottery works; the largest had before the war a national market for its main speciality, Devon fireplaces. There are paper mills, a certain amount of tanning and glove manufacturing, and a good deal of manufacture of clothing and related products; one firm of ecclesiastical furnishers at Exeter normally employs some hundreds. Several works make furniture and other wood products for a national market, and there are a number of agricultural processing factories; dairy products, bacon, and cider are the most important forms of output.

The importance of these and other Devon manufacturing activities relatively both to one another and to other industries and services is adequately shown by Table 90: the position did not change greatly

between the Census and the outbreak of war. The proportion of workers engaged in manufacturing to the whole occupied population was less than half as high in Devon in 1931 as in the country generally, and there was no reason before the war to expect it to rise. Devon's remoteness put it at a disadvantage as a location for industry; transport costs were high, several local firms found it necessary to maintain London offices (at considerable expense) to keep in touch with markets, and difficulties were also experienced owing to the remoteness of Bank head offices and other commercial facilities. It is known that at least one of the few large local firms would have found it difficult or impossible to remain in Devon if its products had been sold in a fully competitive market.

There were also labour difficulties. Firms which grew up in small Devon towns found it impossible after a point to obtain a satisfactory choice of workers, and, conversely, workers had reason to complain of the somewhat old-fashioned attitude to labour relations of some of the firms in towns dependent on a single industry. A possible method of ensuring a better choice to employers and workers alike was tried with some success at Dartington Hall, where a minor trading estate was developed with a variety of industries under a single ownership; a considerable degree of success was attained, though the fact that all the plants were owned by the same concern made it difficult to realize the full value of the experiment. Reports received in the early years of the war contained a number of more general complaints of the slowness and inefficiency of Devon labour in manufacturing industry, notably from firms which had had experience of evacuee labour. Later reports give a different impression. Devon workers, like workers in all agricultural areas, require careful training before they can be used effectively in manufacturing industry; but, once this training is given, it appears that their steadiness and craft tradition considerably outweigh any tendency towards slowness.

Fishing and the extractive industries are of comparatively small importance in Devon, though, like manufacturing, they are of great importance to particular districts. Quarrying for clay or stone is carried on in several parts of the county; it is most important towards Plymouth and in the district round Newton Abbot. Fishing provided before the war a special local problem at Brixham, the leading Devon fishing port. The prosperity of the Brixham fishing trade declined after the last war, and, to quote a Survey report, 'a few years ago Brixham could well have been classified as a distressed area'. Conditions would have been worse if it had not been for the possibility of seasonal engagements on yachts:

'Great reliance is now placed upon temporary engagement on the yachts, and men have often been content with what they can earn in this way to tide them over the out of season period.'

The chief occupations of Devon outside Plymouth are agriculture and the tourist trade. The tourist trade (including catering for the large residential population of invalids and pensioners) is not distinguishable as such in the Ministry of Labour or Census statistics; but a rough impression of its scale can be obtained by comparing the entries for 'Personal Service' in Table 90 for England and Wales and for Devon outside Plymouth, or from the fact that in 1939 some 33½ per cent of the insured workers in Devon outside Plymouth and its immediate neighbourhood were engaged in catering, laundries, distribution, professional services and entertainments, as against 22 per cent for Great Britain as a whole. The tourist trade was expanding rapidly in the 'thirties, though no precise statistics are available; a typical illustration¹ is the experience of one tourist agency in Exeter, which recorded an increase of nearly 20 per cent in inquiries between 1937 and 1939 alone. This expansion was the dominant factor in the prosperity of Devon before the war. It provided a large market for the building trade. It helped out the declining fishing trade and provided a valuable sideline for farmers; its value to other Devon activities is illustrated by the phenomenal takings in the offertory boxes at the door of Buckfast Abbey and the prosperous business built up by one of the smaller local potteries in the mass-production of Devon pixies. In addition to these indirect effects the tourist trade of course provided a substantial amount of employment in garages, hotels, domestic service, and the like.

The development of the tourist trade has had a number of unsatisfactory aspects. The tendency for seasonal unemployment to occur in the tourist centres has been mentioned; there is a marked contrast in this respect between the statistics for the tourist towns and for a town such as Newton Abbot, which is primarily an industrial and marketing centre. Conditions of work in many sections of the catering trades have been poor; this will presumably be remedied under the Catering Wages Act of 1943. Considerable damage to the amenities of the county has been done through inadequate town-planning regulation. While these disadvantages are serious enough, and will need to be corrected after the war, they made a comparatively small offset to the general prosperity which the expansion of the tourist industry brought.

Devon agriculture before the war went through the same experience as agriculture in other parts of the country, tempered by the expansion of the tourist trade and, to a smaller extent, by the development of industries in the countryside. The farmers in the best position to cater directly for tourists, by providing accommodation, meals, and caravan or camp sites, were in certain cases making more from catering before the war than from farming; and, while not more than

¹ Not, of course, more than an illustration.

perhaps 15 per cent of Devon farms were able to cater directly for tourists, all alike benefited from the high price of dairy and other types of produce in the tourist season. While the tourist trade provided a useful addition to incomes, the development of small rural industries in a limited number of villages provided simultaneously new incomes and a new impulse of social development. The impact on Lapford, a small village about sixteen miles north-west of Exeter, of a milk-processing factory erected by a company from outside the area has been described in detail by F. G. Thomas.¹ In this case the good social results were incidental. A more deliberate effort to reinvigorate rural life in all its aspects, social as well as economic, was made over the last ten years before the war at Dartington. The aim of the Dartington experiment was to provide (on a strictly commercial basis)² the variety of new small-scale industries of which mention has already been made, together with services in the arts, education, and research of a type rarely available in rural areas, and to integrate these new developments into the life of an area whose predominantly agricultural character was to remain. Many of the results of this experiment will appear only over a period of generations; but even before the war it was possible to speak of the experiment as a success.

The war has of course had considerable immediate effects in Devon, including substantial air-raid damage; a number of the smaller Devon towns, as well as the main centres of Plymouth and Exeter, have experienced damage which is severe in proportion to their size. Effects of this kind are, however, of no more than temporary importance, except where, as at Plymouth, they facilitate schemes of re-development which might not otherwise have been undertaken. More permanent effects of the war on Devon's economy seem likely to be limited. After as before the war, Devon seems likely to be generally prosperous, and the problems to be faced will probably be very much the same as in the past.

Among the smaller trades, the Brixham fishing industry seems likely to continue to present a problem of some difficulty. It is doubtful whether this trade will ever regain its former position, and its organization and equipment will require considerable improvement if anything even approaching its former prosperity is to be recovered. There is a shortage of skilled men in the trade, following the decline in the years before the war; marketing organization is very unsatisfactory; and re-equipment with a more modern type of boat is desirable. There are other more or less serious difficulties as

¹ *The Changing Village*, 1939.

² After, of course, an appropriate period of experiment and development; the Dartington experiment was aimed at opening up new or neglected lines as well as at exploiting obvious openings for the development of immediately profitable rural industries.

well, notably in finding an economic form of insurance against the high rate of loss and damage to nets and tackle to which boats operating in this area have been subject. The problem of the Brixham fishing industry is on a comparatively small scale; but it is a matter of serious local importance.

Building employment will presumably increase in Devon as in other parts of the country; air-raid damage will provide an immediate stimulus. In the case of manufacturing industries there is no reason to expect a great change in either direction; on the whole, there should be a fair degree of growth. A number of firms are known to have added new departments or taken up new lines which they intend to continue to develop after the war, and in the aggregate tendencies of this kind should much more than out-balance the relatively rare prospects of decline. Agricultural engineering, clothing, builders' materials, milk products, and fruit drinks, are some of the lines in which expansion seems likely.

A limited expansion in manufacturing employment may be welcomed, and there is a case for giving special encouragement to further new industries in a certain number of instances in order to improve the balance of agricultural or tourist districts; but there would be no justification for trying to stimulate an expansion of industry in Devon generally (apart from Plymouth) beyond what is likely to occur in any case. The level of employment in Devon should be sufficiently high without any great addition to manufacturing industry, and many of the pre-war difficulties in the way of industrial development in the South-west remain. Some have been temporarily removed or mitigated during the war; the regionalization of certain Government and commercial services has been an advantage to Devon firms, and for some products (notably timber) schemes for pooling rail charges have done away with the disadvantage to Devon of the high cost of transport to markets. In certain other directions it is possible that technical developments may in future work to Devon's advantage; it may well be asked, for example, whether the development of electrically fired tunnel ovens may not have a considerable effect on the Devonshire pottery industry, which in the past has been held back by the cost of bringing in coal. Developments of this kind have still to make themselves felt, and it may be doubted whether all or many of the changes introduced during the war will remain permanently; for the moment Devon seems likely to remain a relatively unfavourable location for industry. In addition, Devon planning authorities are in many cases hostile to industry; and while in some parts of the country, such as certain districts round London, there are solid reasons for overruling objections of this kind, it is doubtful whether there would be sufficient justification for overriding the opinion of local authorities in most parts of Devon.

The main economic problems in Devon seem likely to remain, as in the past, those of agriculture and the tourist industry. The long-term future of agriculture remains uncertain, and in any case agricultural problems (including forestry) lie outside the scope of the present report; but it is necessary to stress the key importance to Devon of finding a satisfactory solution for them. The general reorganization of agriculture, the future of forestry, which may well become increasingly important, the use to be made of the growing appreciation by farmers of the technical advances made during the war, the possibility of developing further food processing factories or of fitting small trading estates of the Dartington type into the rural economy—the solution of problems of this type is fundamental for the future of large areas of Devonshire.

The future development of the tourist trade will require particularly careful planning. From the point of view of the tourists themselves the chief difficulty before the war was the shortage of cheap accommodation in the face of rapidly rising demand, and the growing congestion in the resorts themselves and on the railways and roads. In 1938 the daily volume of traffic recorded in August by the Ministry of Transport on the Torquay-Paignton road was greater than on any other road in the country—not far short of double the traffic on the London-Brighton road. Difficulties of these sorts will naturally be intensified after the war as a result of the growth of holidays with pay. Road improvements, staggering of holidays, further development of holiday camps on lines begun before the war (including, possibly, the utilization of buildings provided by the Services during the war), and a considerable further development, linked to a programme for improving rural housing, of accommodation for tourists in farm-houses and cottages are possible lines of action. From the point of view of Devon people the problems of seasonal unemployment, of conditions of work, and of organizing the tourist trade so as to help out the older industries have to be solved. It is difficult, though not altogether impossible, to find industries which have a seasonal peak outside the holiday season and which at the same time are suitable for a county such as Devon; the solution of the problem of seasonality will probably have to be sought mainly in an extension of such measures as the staggering of holidays, encouragement of the use of hostels, camps, and other facilities out of the normal season, notably by schools, and the temporary importation, on an even greater scale than at present, of workers from other areas where the seasonal peak in the main industries occurs at a different time. Increased use of farm-house and similar types of accommodation not involving the hiring of additional paid workers may do something to relieve seasonal unemployment as well as to solve the problem of linking the tourist trade to older industries such as

agriculture and fishing; but it must be recognized that increased use of accommodation of this kind has definite limits. Even where house-room and amenities are adequate, many farms would find it difficult to cope with additional or even with any tourists; farmers' wives and daughters, though unoccupied according to the Census definition, are not normally in any sense unemployed. Apart from this, a large part of the new accommodation required in Devon will in any case have to take the form of hostels, camps, and similar establishments employing full-time workers not simultaneously engaged in their own housework or the work of a farm.

A comprehensive plan of development for the tourist trade is needed, to take account of all these factors and of the more general factor of town-planning which affects residents and tourists alike. The problem is complicated by the variety of markets served by the different Devon resorts; there neither is nor should be any homogeneity in the Devon tourist industry. At one end is a resort such as Sidmouth, which deliberately aims at exclusiveness, avoids publicity, and, with a resident population of about 6,000, attracted before the war about 4,000 visitors a year; at the other is Ilfracombe, which does everything in its power to attract as many visitors as possible, and which, with a normal population of about 9,000, reckoned before the war to accommodate half a million resident visitors in the season. The accommodation and other facilities required and the degree of seasonality of the tourist trade naturally vary greatly with the type of demand served.

The need is not merely for more careful local planning of the development of the tourist trade (as apart, that is, from the laying-out of esplanades and issuing of publicity) than has yet been practised in Devon; it is clear that many of the problems arising can be solved only on a regional or national basis. Some 30 per cent of the visits to Devon youth hostels in 1938¹—the only category of visits by tourists for which detailed figures are available—were made by tourists from Scotland, the North of England, and the Midlands, and not far short of half the visitors came from London; the control and spreading of this influx clearly require national measures. Many of the transport reforms required should also be considered on a national scale; and the relative emphasis to be placed on the provision of resorts and facilities of different types, in a county in which the difficulty of meeting all demands is as great as in Devon, should be decided largely in the light of the supply of each type of facility available or capable of being made available elsewhere.

(c) *Cornwall.* From the point of view of prosperity Cornwall fell before the war into a category somewhere between Lancashire and the West Riding. Unemployment was high—distinctly above the

¹ Excluding from the calculation visitors from outside Great Britain.

national level—in spite of the county's largely agricultural character. Expansion was proceeding in certain directions, notably in the tourist trade; but the dominant note of the county's economy was decline.

Cornwall depends on agriculture to a much greater extent than Devon, and the persistent decline of most branches of agriculture during the 'twenties and 'thirties naturally produced particularly serious results. The number of hired workers on agricultural holdings in Cornwall fell by 3,250 (20 per cent) between 1931 and 1938, and, while the small farmers who predominate in Cornwall were not driven out of the industry, their standard of living and of farming in many cases deteriorated. Cornwall has special advantages for vegetable and flower growing, and these branches of agriculture were relatively prosperous and well organized, and had prospects of further expansion to supply both markets outside the county and the local market created by the tourist industry. Other branches were greatly assisted by the Agricultural Marketing Acts; but the Acts affected merely the degree of depression, and were not in themselves sufficient to restore prosperity. All over the county the drift off the land continued down to the war.

The readjustment of agriculture to peace-time conditions may in certain respects be more difficult in Cornwall than in other parts of the country. A particularly difficult problem seems likely to arise in flower growing, the leading industry of the Scilly Islands and an important element in the economy of several other parts of the county. The Cornish flower-growing industry was very largely specialized before the war on production for an early market outside the county, and was able to hold its market in the face of strong competition only by means of exceptionally careful organization, cultivation, and research. It will take time to make good the effect on this industry of the conversion of flower-growing areas to market-gardening and the cessation during the war of the former careful cultivation and selection of bulbs; serious difficulties may arise in the flower-growing areas, particularly the Scilly Islands, if the transition to normal conditions is not carefully planned.

Tin mining, traditionally the most characteristic Cornish industry, was severely depressed before the war and showed no sign of recovery. Output reached a peak in the last quarter of the nineteenth century, the greatest production of metal in a year being slightly over 10,000 tons; from then onwards it declined steadily, although Cornwall gained greatly from international regulation in the 'twenties and 'thirties, and in the last years before the present war output was about 2,000 tons. Employment fell from about 4,500 in 1914 to 1,300 in 1938 and 1939. Even at this level employment in tin mining remained important to Cornwall; 2·9 per cent of the insured workers

in Cornwall as a whole in 1939 were engaged in tin-mining, and the importance of mining to Camborne-Redruth and St. Just, the districts containing the three mines still in operation early in the war, remains substantial.

The decline of Cornish tin mining was due principally to the exploitation with cheap native labour of easily worked alluvial deposits in the Far East and Africa; competition from the Bolivian lode mines, also worked with cheap labour, was a secondary factor. In spite of periodic high dividends (Geevor Tin Mines Ltd., of St. Just, paid 25 per cent in the last complete year before the war) the average return to be expected from Cornish tin mining in the 'twenties and 'thirties was too low to attract investors, and working conditions even in the best years were poor and wages extremely low; wages for surface workers at one mine in 1939 were 36s. a week, while underground workers earned from 6s. 6d. to 6s. 8d. a shift. There is no reason to suppose that any practicable reorganization would have enabled the Cornish industry to reach the level of costs attained by its competitors without an intolerable reduction in its already low standards of wages and working conditions; and there is equally no reason to suppose that this will be possible when the same competition re-emerges a few years after the war. In view of this, it might seem that the best policy would be to wind up the tin-mining industry and to find its workers other occupations.

Even apart from historical and sentimental considerations, which should not be ignored, this would be to go too far. The war has shown that there are solid strategic reasons for preserving in this country even a small amount of tin production. It is also probable that in the long run the cost of production in Cornwall will come to compare more favourably with costs in competing areas than in the 'twenties and 'thirties. Efforts to improve labour standards in the British colonies and in several other producing areas were already under way before the war, and are likely to be actively pressed in future. There is also every reason to expect that within a generation or two, as a result of the exhaustion of the more easily worked alluvial deposits, lode mining will again become the main method of obtaining tin in the world as a whole.¹ It is possible that at the price levels which may prevail after these developments have had time to work themselves out a reorganized Cornish tin industry may be able to compete and at the same time to provide satisfactory standards for its workers. Reorganization would have to be extensive; how extensive is difficult to say, since there is a lack of authoritative knowledge of a number of essential aspects both of the resources available and of the prospects for using them. A comprehensive

¹ Report of a conference on *Mineral Resources and the Atlantic Charter*: British Association, *The Advancement of Science*, II, 7, 202-4.

inquiry is needed to discover the long-term prospects for the industry and, if the ultimate prospects are sufficiently favourable, to show what measures are required in the immediate future to retain in Cornwall an adequate nucleus of mining activity, management, and skilled labour, and to prepare for further developments in due course.

Other extractive industries in Cornwall have done better in recent years. In the St. Austell district, which depends principally on the china-clay industry, there was severe unemployment in the early 'thirties, rising at times well above the national level; but in more recent years this industry has been relatively prosperous, as it was at the end of the 'twenties. The management of the leading firm, which controls around two-thirds or three-quarters of the total output, is energetic and enterprising and carries on a substantial amount of research, and the industry's labour standards are good. Prospects for this industry should be excellent; the most important cause for anxiety is the loss during the war of European markets, which before 1939 took about a third of total output. The stone- and slate-quarrying industries are solidly established, and the leading slate firm showed considerable enterprise before the war in developing new lines. A survey of the Cornish granite-quarrying industry leaves very much the same impression as the discussion of the Aberdeen granite industry in an earlier chapter; the Cornish producers have tended to rely somewhat excessively on protection and on price control through their trade association, and have failed to take the advantage which might have been expected of the rising market for granite in Great Britain as a whole.

The Cornish fishing industry was declining before the war. The number of first-class boats was halved between 1922 and 1938, and landings at most of the ports tended to fall. Employment fell considerably over the same period, and, as in Devon, a considerable number of the men still attached to the industry in 1939 depended mainly on earnings from other sources:

'Up to 1911 there were over 3,000 men employed in fishing. By 1938 the figure had dropped to just over 2,000, many of whom rarely, if ever, actually engaged in fishing, and should be regarded rather as boatmen.'

Few new recruits were drawn into the industry between 1918 and 1939, and by the outbreak of war the average age of the remaining fishermen was high. The decline has been partly due to technical developments outside the Cornish industry's control—the tendency, for instance, for the type of boat most efficient under modern conditions to become too large for the smaller Cornish ports, or the collapse of the most important export market, the Italian market for pilchards, as a result of Sanctions in 1936. It is impossible

however, not to feel that it has been due largely to the failure of the fishermen themselves to build up an adequate organization for marketing, the purchase of stores and gear, and representation of the fishing industry in dealing with transport concerns, port authorities, and Government departments; co-operative organization of any kind has made little progress in the Cornish fishing industry. The industry has been prosperous during the war, and some reserve funds have probably been accumulated. There appears to be no technical reason why, if these funds could be used for a comprehensive reorganization after the war, the fishing industry should not be permanently restored; but it must be recognized that this reorganization will probably not occur without a certain stimulus from outside. Capital grants to assist re-equipment, which may well be necessary in any case, might provide the necessary lever. Local suggestions for increased protection or preference in the home market might reasonably be treated with reserve until the effect of a serious effort at reorganization has been seen.

Among Cornish manufacturing industries three deserve particular mention. Shipbuilding and repairing, which in 1939 had just over 2,000 insured workers, is the dominant industry of the Falmouth district. It has of course been prosperous during the war, and, while the wartime expansion can scarcely be maintained for more than two or three years after the end of hostilities, there is no reason to suppose that employment in the long run will be lower than before the war.

Engineering in Cornwall, apart from marine engineering, is largely an offshoot of tin mining; by far the most important centre of it is Camborne. The two leading Camborne firms began by supplying the needs of the Cornish mining industry, and as the mining industry declined turned over to supplying mining machinery to overseas countries. A large export market was built up before the last war. Some markets were temporarily and others permanently lost between 1914 and 1918; but by enterprise and adaptation most markets were either regained or replaced, and on the eve of the present war around three-quarters or four-fifths of the output of the largest firm was exported, mainly to the Empire overseas. Future prospects for the engineering industry are uncertain, in view both of the interruption of export connexions and of the rapid development of engineering industries in the Dominions and India. The Camborne area has a tradition of engineering skill of the highest order, backed by a good system of apprenticeship and technical education, and engineering is the dominant industry of the whole Camborne-Redruth district; a serious decline in engineering here would cause great social difficulties, as well as involving a waste of a valuable national asset.

the same enterprise and resource in finding out new markets after the present war as after the last; agricultural machinery and equipment for the Cornish clay pits or for alluvial workings overseas are lines in which it is suggested locally that development might be possible. It should be considered whether some outside assistance may not be required in addition in order to prevent a fall in employment and, possibly, to facilitate an expansion based on new buildings and equipment added during the war.

A much smaller Cornish industry is hosiery, concerned principally with the production of medium-priced outerwear. This industry has been through various vicissitudes since its establishment before the last war, but appears to have reasonably good prospects. It is of particular interest as an industry which has grown up in comparatively recent years, and because it provides employment for women; Cornwall in 1939 had no more than 20 insured women workers (aged 16-64) for each hundred insured men, as compared with the national proportion of 37, and there was scope for a further expansion of women's industries.

The tourist trade, finally, was the most rapidly developing branch of Cornish industry before the war, and remains the branch for which the prospects are brightest. The tendency in the 'twenties was for the resorts and hotels catering for relatively well-to-do tourists to develop most rapidly. In the 'thirties the demand for the more expensive type of facilities appears to have become stable or even, in certain cases, to have declined; but for the county as a whole this was more than compensated by the growing demand for cheaper types of holiday. As in Devon, the tourist trade provided a valuable side-line for farmers and fishermen. There are likely to be the same difficulties in re-starting the tourist industry (particularly the provision for relatively well-to-do tourists) in Cornwall as in most districts on the south and east coasts; requisitioning, air-raid damage, and the complete or partial stoppage of the tourist trade from time to time have raised in many areas serious difficulties over repairs and replacements, the exhaustion of financial reserves, and the like. Once these temporary difficulties are overcome the prospects should be excellent. Though the congestion of tourist traffic in Cornwall was not as great before the war as in Devon, what has been said above on the need to plan the development of the Devon tourist industry can be applied to Cornwall with little modification.

The general impression left by a survey of Cornish industries is that in its agriculture, engineering, shipbuilding, and several minor manufacturing industries, in the china clay industry, fishing, and the tourist trade, and possibly also in tin mining, Cornwall has a solid basis for a flourishing and very well-balanced economy; but that there is a definite danger that the full possibilities of economic

development in Cornwall will not be realized, and that several districts will slip back into the depression from which the war rescued them. This is true particularly of the Camborne-Redruth area, dependent on engineering and tin mining, where depression was severest before the war, and it may prove to be true also of a number of agricultural districts and fishing ports. The prospects of a number of districts are uncertain, and the county as a whole may be little more prosperous than before the war unless some outside assistance and stimulus is provided.

The form which this assistance should take deserves careful consideration. In certain cases the problem is comparatively straightforward; it will be necessary for national or regional authorities to do for Cornwall things which Cornwall cannot do for itself. Assistance will probably be needed in bringing new industries into the Camborne-Redruth area, possibly in maintaining activity in the tin mining and engineering industries, and probably in providing the capital needed for the re-equipment of the fishing industry; the reorganization of agriculture must also be largely a matter for national action. National policy will presumably result in addition in a rise in building employment, notably around Torpoint and Saltash, where considerable new developments are proposed under the City of Plymouth Plan.

It is impossible, however, in surveying Cornish industries to avoid a feeling that the deficiency in recent years has been at least as much in organized local initiative as in national assistance. The failure to secure an adequate amount of co-operative effort in highly individualistic industries is obvious enough in agriculture and fishing, and even in the mining and industrial areas of Camborne-Redruth one report speaks of the 'tragic apathy and inertia' which prevented an organized effort to take advantage of the provisions of the Special Areas (Amendment) Act of 1937 applicable to areas of this type. There have been outstanding examples of individual enterprise and initiative in Cornwall—the Camborne engineering firms are the best example—and in some cases, as in the horticultural and market-gardening sections of agriculture, voluntary organization has made progress; but there has been nothing in Cornwall to parallel the valuable work in focusing local interest and initiative and in promoting research and industrial development carried on in other parts of the country by Development Councils and similar bodies. There is no technical reason why Cornwall should not retain its exceptionally small-scale farming and fishing organization and its balance and interlocking between mining, industry, and agriculture, and on social grounds it may be hoped that it will; but it is essential that there should be a framework of co-operative organization in the small-scale

Survey a plan for the reconstruction of South-west Cornwall, centred round the re-development of Camborne-Redruth as a regional capital, was received from a local source. Without passing judgment on this particular proposal, which is a matter for local consideration, it may be emphasized that comprehensive schemes of reconstruction of this kind, undertaken on local initiative, are among Cornwall's main needs.

It has already been suggested that the provision of assistance to the fishing industry after the war might be used as a lever to promote better organization; the same possibility should be borne in mind in respect of other industries. In certain directions experience has already suggested possible lines of action. In the case of agriculture the pre-war marketing Acts and wartime experience have done much to educate farmers outside the relatively well-organized horticultural and market-gardening sections in the value of co-operation. In the South-western mining district, though the Special Areas Act of 1937 produced little result, it is by no means impossible that the Loans Facilities Bill of 1939, whose further progress was stopped by the war, would have resulted in the establishment of a local development organization. Whether in these or in other ways, it is desirable that any outside assistance given to Cornwall should be directed largely to stimulating local initiative.

CHAPTER XIV

THE SOUTH-EASTERN COUNTIES

OMISSIONS from the area covered by the Nuffield Survey are more serious in the South-east than in any other region. The only parts of Kent, Surrey, or Essex covered are those within Greater London, which is dealt with in the next chapter. Bedfordshire outside the Luton area was omitted, and at the time of writing (spring of 1944) no complete report on the Luton area is yet available. There is also a gap between the southern boundary of Berkshire and the area covered in southern Hampshire.

The districts actually covered—Hertfordshire, Luton and its neighbourhood, Buckinghamshire, Oxfordshire, Berkshire, and the Southern part of Hampshire, with some of the parts of the Isle of Wight nearest to it—have sufficient interests in common to justify treating them as a unit, though they do not form a region in the sense of London or Lancashire, or even of a district such as the East Midlands. All alike were prosperous before the war, and gained from the general tendency of industry to expand fastest in the South-east. Unemployment in all of them was below the national average, and some of them reached a high standard of absolute as well as relative prosperity. In Hertfordshire, Bedfordshire, and Buckinghamshire unemployment was consistently below the level even of London and the South-east, and in some districts there was a definite shortage of workers. The rate of industrial development attained in some of the districts covered can be judged from the fact that the insured population doubled at Luton and quadrupled at Slough between 1923 and 1937, and that 43 per cent of the adult men whose insurance books were exchanged at Oxford in 1936 were immigrants from other areas. There was a large net immigration into the south-eastern counties during the 'twenties and 'thirties; the rapid increase from this cause in Bedfordshire, Sussex, and Hertfordshire in the early 'thirties is particularly striking, since in these years the rate of migration was tending to fall in the country as a whole. Development in all the south-eastern counties has in the past been to some extent bound up with the development of Greater London, or is likely to be bound up with it in future.

These features are common to all the south-eastern counties. There is in addition one main distinction which serves to divide them into two groups. In Hertfordshire, Bedfordshire, Oxfordshire, Berkshire, Buckinghamshire, and Sussex, the prosperity of the last

TABLE 92
UNEMPLOYMENT AND IMMIGRATION, SOUTH-EASTERN COUNTIES

	% of insured workers unemployed			Average annual net gain by immigration from other counties:	
	Monthly average			% of population of each area	
	1929	1932	1937	1927-31	1931-6
Hertfordshire	3.6	11.5	4.9	2.1 ¹	2.6 ¹
Bedfordshire	4.3	11.2	4.8	0.5	2.0
Buckinghamshire	3.3	13.2	4.8	1.7	1.2
Oxfordshire	5.3	13.0	6.8	1.8	0.9
Berkshire	5.6	14.5	6.6	0.5	0.5
Hampshire ²	6.4	17.2	7.4	0.6	0.5
Sussex	4.0	11.0	6.3	0.8	1.4
London and South-eastern					
Divisions	5.6	13.7	6.5	From Tables 7 and 8, Ch. I.	
Great Britain	10.6	22.2	10.8		

generally be regarded as typical of the South-east, residential development and the growth of light industries and service trades. Development of this kind was by no means lacking in South Hampshire; but Southampton and Portsmouth, the two main centres in this district, are first and foremost ports, and their past history and future prospects are accordingly different from those of the other areas considered.

LIGHT INDUSTRY AND THE SERVICE TRADES:

THE HOME COUNTIES

The course of development before the war. The course of development before the war in the Home Counties survey areas (the south-eastern counties as defined here, less South Hampshire) varied greatly in detail, though its general lines were similar almost everywhere.

The population of the Hertfordshire survey area, which excludes the parts of Hertfordshire within Greater London, grew with increasing rapidity during the 'twenties and 'thirties; it rose 18 per cent between 1921 and 1931, and 29 per cent between 1931 and 1939. The main cause of the increase was residential development due to the movement of population out of the centre of London; this development occurred principally in the south of the area, and went to the rural districts as much as to the towns. There was in addition a substantial development of industry, particularly at Watford, Welwyn, Letchworth, and St. Albans. Hertfordshire depends on manufacturing industry to a smaller extent than England and Wales

TABLE 93—CENSUS OF 1931

DISTRIBUTION OF THE WORKING POPULATION BETWEEN INDUSTRIES. PROPORTION IN EACH CATEGORY PER 1,000 OF THE POPULATION AGED 14 AND OVER

	England and Wales	Hertford- shire	Sussex
<i>Total Population, aged 14 or over</i>	1,000	1,000	1,000
<i>Unoccupied or Retired</i>	393	417	444
<i>Unemployed</i>	70	32	33
<i>Fishing</i>	1	0	1
<i>Agriculture</i>	31	47	47
<i>Mining, Quarrying, Treatment of Non- metalliferous Mining Products</i>	32	3	2
<i>Manufacturing</i>	172	139	65
Bricks, Pottery, Glass, etc.	6	1	3
Chemicals	6	6	2
Metals, Instruments, etc.	57	33	22
Textiles	31	4	1
Leather	2	2	1
Clothing and Footwear	25	20	10
Food, Drink, Tobacco	18	18	13
Woodworking	8	7	5
Paper-making, Printing, etc.	13	37	6
Other Manufacturing	6	11	2
<i>Building, etc.</i>	27	47	43
<i>Public Utilities and Transport</i>	44	46	37
Gas, Water, Electricity	7	9	8
Transport	37	37	30
<i>Commerce, Administration, Professions</i>	151	161	171
Commerce and Finance	89	89	97
Public Administration, Defence	44	44	41
Professions	18	28	34
<i>Personal Service, Entertainment</i>	77	106	155
Entertainments and Sport	5	6	7
Personal Service	72	100	148
<i>Other Industries and Services</i>	1	1	2
<i>Total Number of Persons aged 14 and over</i>	31,044,000	318,655	624,194

Sussex in this table includes both East and West Sussex Administrative Counties.

as a whole (Table 93—the figures of the table refer to Hertfordshire as a whole), and has very little extractive industry; but it depends on industry to a very much greater extent than a typical residential and tourist area such as Sussex.

The most important single group of industries is printing and paper manufacturing. The printing trade was moving out of Central

of London wages; Hertfordshire benefited considerably, and immediately before the war was one of the most important printing centres in the country. Paper-making and related industries are also important. There are a large number of other miscellaneous industries, making a great variety of products, but having in common certain characteristics. The great majority of firms are small, though larger firms are by no means unknown; there are about a dozen which normally employ over a thousand. Managements tend to be young and enterprising. Most firms served a national market down to the war; comparatively few, apart from the usual local 'service' industries or firms ancillary to, for example, the printing industry, had any great interest in local markets until zoning to save transport was introduced as a wartime measure. A few Hertfordshire firms normally sold a high proportion of their output abroad before the war, and many—perhaps most—had at least the germ of an interest in export markets; but for the majority of firms the proportion of output exported appears to have been very small. Nearly all the manufacturing work done in Hertfordshire before the war was light; there was only one important firm, at Letchworth, which did heavy engineering work. The great bulk of the products made were finished articles ready for sale to consumers. It is illuminating in running through a list of Hertfordshire firms to note the number of names (Spirella, Ballito, Marmet, and Allen and Hanbury are a few) which are familiar throughout the country in connexion with one or another type of consumers' goods.

Possibly the best example of the variegated industrial and residential development in Hertfordshire is Watford, the chief industrial town and the main centre of the printing trade. In considering the variety of development shown in the following quotation from the Survey's Hertfordshire report it should be remembered that Watford, though the largest town in Hertfordshire, had a population in 1938 of little over 65,000.

'Watford has grown steadily, though at a somewhat declining rate, for more than sixty years. Up to the outbreak of war its growth as a residential area appears, however, to have been at a somewhat greater rate than its growth as an industrial area. Before the war it housed some 225 factories and workshops. Good transport facilities appear to have been the chief factor contributing to this growth on both sides. Printing is the foremost industry and accounts for about 4,000 workers. Indeed, during the inter-war period Watford has become the leading printing centre outside London. There are more than a dozen firms, including the Sun Engraving Co. Ltd., Greycaine Limited, and Odhams Limited. In addition there are two printing ink manufacturers (recently

concentrated into one) and also a firm producing paper-making machinery.

'There is a nucleus of engineering firms, including firms manufacturing motor lorries (Scammell), precision instruments, electrical apparatus, motor-car accessories, and machinery for the building trades. There is a foundry and two firms engaged on metal pressings. There is also a medium-sized firm engaged in the manufacture of asbestos cement. The largest manufacturers of rubber hose in the country are to be found in Watford. The food and drink industry is represented by a large brewery (Benskins), breakfast food manufacturers and preserve makers, together with a firm of biscuit makers that has been closed under a concentration scheme. A considerable number of smaller factories employing around 100 workers are engaged on such varied trades as photographic material (Ilford Limited), batteries, buttons, proprietary medicines (e.g. Yeast-Vite, Phosphorine), boot polishes, brushes, and plastics. Half the Watford industries are migrants from London (notably Islington, Bermondsey, and Soho), and of these the bulk have moved to Watford between the wars.'

Hertfordshire is, in fact, a typical example—possibly the most typical—of an area dependent on the prosperous mixed light industries which grew up in the South-east as a result of developments in the 'twenties and 'thirties. The attraction of Hertfordshire for these industries has been due to a number of causes. Transport facilities for industries serving a national market are excellent, though cross-country facilities in the county itself are relatively poor. Hertfordshire lies across several of the main routes to the Midlands and North, both by road and rail, and has in addition canals, of which a certain amount of use is still made. Delivery facilities to London are particularly good; it is possible to quote cases of firms which have found it quicker and easier to serve London customers from sites in Hertfordshire than from sites in Central London. Cheap sites with room for expansion, the possibility of renting new factories at Welwyn and Letchworth, the occasional availability of older disused factories, attractive surroundings and good housing within easy reach of London, and good atmospheric conditions suitable for work such as food or optical instrument manufacture have all played their part. A number of firms alive to the advantages of good planning were attracted before the war by the admirable design of Welwyn and Letchworth Garden Cities. Elsewhere in Hertfordshire town-planning seems to have had little effect in either increasing or diminishing the county's attractiveness for industry. Certain local authorities and landowners were definitely hostile to industrial development; but this was balanced by the excessive laxity of control in other districts.

A good supply of unskilled or semi-skilled labour suitable for light industries, particularly of women, at rates lower than would be paid in London was an attraction for some time; but in the last years before the war this supply was beginning to run short in spite of rapid residential development, and a number of firms were finding it difficult to obtain their normal complement of women workers.

Even in Hertfordshire there are some areas where there was little development, or actually a decline, in the years immediately before the war. In two rural districts in the north-east of the county, Braughing and Hertford, the population is estimated to have fallen between 1931 and 1938, and in the Hitchin Rural District and some of the smaller towns in the north of the county the estimated increase was very small.

TABLE 94—LUTON

Estimated Number of Insured Persons, aged 16-64, July 1923 and July 1937

Industry	Estimated No. of insured		Increase (+) or Decrease (-) 1923-37		No. in each industry as % of all insured July 1937	
	July 1923	July 1937	No.	%	Luton	Great Britain
Hats and Caps	9,490	11,500	+ 2,010	+ 21	25.2	0.2
Motors, Cycles, Aircraft . .	2,250	9,380	+ 7,080	+ 315	20.5	2.6
General Engineering, etc.	2,790	6,720	+ 3,930	+ 141	14.7	4.6
Stoves, Grates, Pipes, etc.	1,300	2,720	+ 1,420	+ 109	6.0	0.8
Chemicals	310	820	+ 510	+ 164	1.8	1.7
Building	1,280	2,930	+ 1,650	+ 129	6.4	7.7
Public Works Contracting	100	650	+ 550	+ 550	1.4	2.2
Distribution	1,750	5,490	+ 3,740	+ 214	12.0	15.2
Gas, Water, Electricity . .	310	700	+ 390	+ 126	1.6	1.6
Other Industries and Services	3,460	4,760	+ 1,300	+ 38	10.4	63.4
Total	23,040	45,620	+22,580	+ 98	100.0	100.0

From the evidence of the Ministry of Labour to the Barlow Commission.

There is a marked contrast between the varied industrial development of the main Hertfordshire centres and the more specialized growth at Luton, in the angle between Hertfordshire and Buckinghamshire. The growth of industry at Luton between the two wars was exceptionally rapid. In 1923 the number of insured workers in the Luton exchange area was 23,000, of whom 69 per cent were engaged in four industries—hat manufacturing, general engineering, the motor, cycle, and aircraft group, and iron founding. By 1937 the number of workers had risen to 45,600. The same four industries

still included slightly over 66 per cent of the insured population, but their relative importance had changed considerably. Hat manufacturing, which had accounted in 1923 for 41 per cent of the insured population, accounted for no more than 25 per cent in 1937, while, as a result principally of the rapid development of the motor industry, the proportion engaged in the metal industries rose over the same period from 28 per cent to 41 per cent. Hat manufacturing remained the largest single group, but the motor industry was not far behind, and was already more important as a source of employment for men.

In the parts of Buckinghamshire and Berkshire within thirty miles of Central London—roughly, the parts within the line of the Chilterns—there was the same combination of residential and industrial development as in Hertfordshire. The main centres of industrial development were Slough and High Wycombe. The traditional and dominant industry of High Wycombe is furniture making,¹ based on the local supply of beech, and under the influence of the building boom this industry flourished greatly. In the late 'twenties unemployment in the Wycombe exchange area was frequently below 1 per cent, and even about 1936 and 1937, when the insured population had risen (the number of insured workers in 1939 was 36 per cent greater than in 1937), unemployment ranged between 2 per cent and 5 per cent. Slough is an area of an entirely different type. It has no dominant industry. Its prosperity was built up through the growth of miscellaneous industries on the Slough Trading Estate, started after the last war. The labour force at Slough came largely from the depressed areas; the number of workers who moved to Slough from the depressed areas averaged a thousand a year for many years, and in 1937 some 8,000 of these immigrants continued to be employed on the Estate. The total number employed on the Estate at the same date was about 20,000.² In view of the volume and continuity of immigration from the depressed areas it is not surprising that unemployment at Slough before the war was frequently higher than in other parts of the South-east; but it was generally well below the national level.

Berkshire, Buckinghamshire, and Oxfordshire outside the thirty-mile radius were less directly affected by development (especially residential development) connected with the growth of Greater London. At Reading and in the Kennet Valley towards Newbury there was steady prosperity and a good deal of new development, without any dramatic change such as occurred at Slough or Oxford. Reading has no dominant industry. Its largest single concern before the war was in biscuit manufacturing (Huntley and Palmer Ltd.).

TABLE 95—SLOUGH

Estimated Number of Insured Persons, aged 16-64

Industry	Estimated No. of insured persons aged 16-64		Increase (+) or Decrease (-)	No. in each industry as % of total insured July 1937	
	July 1923	July 1937		Slough	Great Britain
Electric Cable, Apparatus, Lamp, etc.	30	1,780	+ 1,750	8.6	1.3
Electrical Engineering . . .	20	610	+ 590	2.9	0.9
General Engineering, etc. . .	760	1,470	+ 710	7.1	4.6
Motors, Cycles, Aircraft . . .	610	410	- 200	2.0	2.6
Miscellaneous Metal Goods . .	10	110	+ 100	0.5	2.0
Non-ferrous Metal Manufacturing	—	1,460	+ 1,460	7.0	1.0
Miscellaneous Food Industries .	400	1,150	+ 750	5.5	1.0
Bread, Biscuits, Cakes . . .	50	730	+ 680	3.5	1.3
Cocoa, Chocolate, etc. . . .	—	420	+ 420	2.0	0.6
Drink	20	60	+ 40	0.3	0.9
Hosiery	—	180	+ 180	0.9	0.9
Cotton	—	100	+ 100	0.5	3.1
Furniture, etc.	30	1,370	+ 1,340	6.6	1.1
Chemicals	180	1,030	+ 850	5.0	1.7
Cardboard Boxes, Paper Bags, Stationery	—	340	+ 340	1.6	0.5
Brick, Tile, Pipe, etc. . . .	160	110	- 50	0.5	0.8
Non-metalliferous Mining Products	—	80	+ 80	0.4	0.5
Printing, Publishing, etc. . .	20	100	+ 80	0.5	2.1
Building	780	2,300	+ 1,520	11.1	7.7
Public Works Contracting . .	130	630	+ 500	6.0	2.2
Electrical Wiring and Contracting	—	70	+ 70	0.3	0.3
Road Transport (not Tram or Bus)	30	180	+ 150	0.9	1.5
Gas, Water, Electricity . . .	90	210	+ 120	1.0	1.6
Distribution	490	1,820	+ 1,330	8.7	15.2
Hotels, etc.	110	270	+ 160	1.3	3.3
Laundries, Cleaners	100	270	+ 170	1.3	1.3
Other Industries and Services .	1,050	3,540	+ 2,490	17.0	40.0
Total	5,070	20,800	+ 15,730	100.0	100.0

From the Ministry of Labour's evidence to the Barlow Commission.

There was a considerable amount of employment in the general engineering and motor and aircraft groups, and smaller amounts in seed growing, a variety of minor metal-working trades, the food and drink industries, printing, clothing, and woodworking. Reading is also a University and market town.

The most rapid and in many ways the most important development in the three counties outside the thirty-mile radius occurred at

TABLE 96

OXFORD SURVEY AREA.¹ PERCENTAGE OF ALL INSURED WORKERS
AGED 16-64 ENGAGED IN EACH INDUSTRY GROUP, 1937

	Oxford	United Kingdom
<i>Number of Insured Workers, aged 16-64</i>		
Men	31,796	10,598,400
Women	6,626	3,788,600
Total	38,422	14,387,000
<i>Percentage of Insured Workers, aged 16-64, engaged in each industry</i>		
<i>Agriculture and Fishing</i>	7.7	5.0
<i>Mining and Quarrying</i>	0.5	6.8
<i>Manufacturing</i>	45.0	43.7
Construction and Repair of Vehicles	27.2	2.9
Other Metal Industries ²	5.6	5.1
Paper, Printing, etc.	4.6	3.1
Food, Drink, Tobacco	1.8	4.0
Clothing	1.5	4.3
Woodworking, Furniture	1.3	1.7
Engineering, etc.	1.2	5.7
Brick, Tile, Pipe, Cement, etc.	1.0	1.1
Leather, Leather Goods	0.6	0.5
Ship and Boat building, etc.	0.3	1.1
Other Manufacturing	negligible	14.1
<i>Building and Contracting</i>	13.4	9.3
<i>Services</i>	33.4	35.2
Distribution	16.3	14.5
Gas, Water, Electricity	1.0	1.5
Transport, etc.	4.1	6.3
Commerce and Finance	0.5	1.9
Government Service (National and Local)	4.1	3.6
Miscellaneous Services	7.5	7.4
Total	100.0	100.0

Based on statistics in the *Survey of Social Services in the Oxford District*, Vol. I, pp. 64 and 296.

Oxford. The main source of employment in Oxford until after the last war was the University, with the industries directly or indirectly dependent on it, particularly the University Press. During the 'twenties and 'thirties the situation was transformed by the rise of Morris Motors and of the Pressed Steel Company, whose main product is motor bodies. No accurate figures are available for measuring the relative importance of different sources of employment in Oxford at

¹ Oxford, Abingdon, Woodstock, and the rural districts around Oxford and economically and socially attached to it. The approximate boundary of the area follows a line from Blenheim Park through Eynsham, Brighthampton, Lyford, Stevenon, Dorchester, Drayton St. Leonard, Waterperry, Studley, and Islip.

² Including workers in the Radiators branch of Morris Motors.

the end of the 'thirties; but it is probable that by 1939^{*} these two firms provided directly or indirectly at least as much work as the University. In 1937 about 33 per cent of the insured population was engaged in the two industry groups 'construction and repair of vehicles' and 'other metal industries'. The need of the new industries for labour was met by immigration; 35 per cent of all insured workers in Oxford in 1936, and 43 per cent of all adult men insured, had come in from other parts of the country. About two-thirds came from the country round Oxford, the Midlands, and London and the South-east, and rather less than a quarter from the depressed areas in Wales and the North. The total population of Oxford rose 40 per cent between 1921 and 1938, from 67,290 to 94,090.

The northern and western parts of Oxfordshire, Berkshire, and Buckinghamshire were relatively little affected by new industrial or residential development before the war. There is a considerable amount of industry in these areas. Cement manufacture and gravel-quarrying are important in several districts. The Thames Valley towns have a number of small-scale industries and a few larger firms—printing, milk processing, and engineering at Aylesbury, blankets and gloves at Witney, tweed at Chipping Norton, gloves at Woodstock and Charlbury, the motor industry, leather, and concrete at Abingdon, and a large Ordnance Depot and a few other firms at Didcot. In the northern part of the three counties and along the main line of the L.M.S. through Bletchley and Wolverton there are a number of other industries, including some on a large scale. The Northern Aluminium Company employed 2,000 workers on aluminium-rolling at Banbury before the war, and the L.M.S. employed 4,500 in the carriage works at Wolverton. A large clothing factory was erected at Bletchley shortly before the war. Iron-ore is quarried on a large scale in North Oxfordshire; 851,000 tons were produced in 1937, an increase of 36 per cent since 1929.

There have on the whole been few specifically industrial difficulties in the Thames Valley or in the northern part of the three counties; the chief economic problem before the war was the depression in agriculture, reflected in the stagnant or declining population of a number of rural districts and small towns on the fringe of the three counties farthest from London. The devastation of land through iron-ore quarrying in Oxfordshire and gravel-quarrying and cement works in several parts of Buckinghamshire was raising a problem of the kind already discussed in the case of Northamptonshire.¹ The problem of gravel and sand quarrying is the most serious. The Kennet Committee² found that the devastation of land

through iron-ore quarrying in Oxfordshire was on a comparatively small scale, and, while recognizing that land used was not being adequately restored for agriculture or other purposes, decided that Oxfordshire could for the moment be left outside the scope of their proposed Ironstone Areas Restoration Board. At the same time, they pointed out that up to 10,000 acres of land in Oxfordshire might eventually be worked for ironstone, and that power should be taken to apply special regulations to Oxfordshire whenever the need should arise. It has been stressed earlier, in dealing with the East Midlands, that the south-western part of Northamptonshire and the adjoining parts of Oxfordshire, Buckinghamshire, and Warwickshire were faced before the war with very similar problems, and that the problems of the agricultural districts in this area require to be considered as a whole, along with the problems of further industrial development around Banbury, Wolverton, Newport Pagnell, and Bletchley.

Sussex has developed on rather different lines from the areas north and west of London. A characteristic of industrial development in Great Britain between 1918 and 1939 was the tendency for manufacturing industry to develop most rapidly in a belt of country running from London through the Midlands to Lancashire; Hertfordshire, Bedfordshire, Oxfordshire, Berkshire, and Buckinghamshire lay wholly or partly inside this belt, and manufacturing industry developed in these counties on a considerable scale. Sussex lay outside the belt. Figures are quoted elsewhere¹ to show how within London itself a far smaller share of new manufacturing industries were located south of the river than would have been warranted by the distribution of the population; this tendency to avoid districts separated from the rest of the country by the London built-up area affected the southern counties outside Greater London as well as Greater London itself.

Sussex retained at the outbreak of war the character which is suggested by the Census figures in Table 93. Agriculture was more important than in the country as a whole. Manufacturing and extractive industries were weakly represented; 6½ per cent of the people of working age in Sussex were engaged in these industries in 1931, against 20½ per cent in England and Wales generally. There was a high proportion of retired people and a strongly developed tourist industry, and in the last years before the war there was a growing dormitory population living in the Sussex towns and working in London. The fact that in 1931 some 15 per cent of the people of working age in Sussex were engaged in some form of personal service, as compared with 7 per cent in the country as a whole, is an indication of the county's residential and recreational character. The increasing

proportion of elderly people in the population of the country as a whole, the extension of holidays with pay in the last years before the war, and the improvement of communications which resulted from the electrification of the main lines of the Southern Railway all worked to the advantage of Sussex. In spite of a high proportion of elderly people and an abnormally low level of fertility¹ the population of Sussex increased by 8 per cent between 1931 and 1938, as against an increase of 3·2 per cent in Great Britain as a whole, and, as Table 92 shows, the rate of immigration actually increased during the 'thirties.

As in the other Home Counties, there were some parts of Sussex which did not share in the general development. A fairly clear distinction could be drawn before the war between the parts of Sussex which depended mainly on tourists, pensioners, rentiers, and dormitory dwellers and those which depended chiefly on agriculture; perhaps the most pointed contrast in this respect is between Lewes, a typical county town, and its neighbour Brighton. It is chiefly in the tourist and residential districts that prosperity was experienced and the population rose, though even in these districts development had (from a purely economic point of view) certain unsatisfactory features to which reference is made below.² In a number of agricultural districts population remained constant during the 'thirties or actually fell. There were a number of promising developments in Sussex agriculture before the war, notably in fruit growing, market-gardening, dairying, and egg production, and there were possibilities of expansion both in agriculture itself and in related industries. An improvement in water supply and housing, and in communications in the inland parts of Sussex, all highly necessary in any case, might have made possible a widespread development of the farm-house tourist trade which has been of so much value to the West Country. These were only possibilities; in practice, Sussex agriculture shared in the depression felt in all parts of the country.

Another Sussex district where development lagged was Newhaven, whose economic future was becoming increasingly doubtful in the last years before the war. Newhaven is dominated by its port; it is reckoned that about two-thirds of the male population were directly or indirectly employed in peace-time by the Southern Railway, to which the port belongs. Goods traffic, the main source of employment, was falling before the war; the joint total of imports and exports was £21 millions in 1913 and 1924, under £14 millions in 1929, and £8 millions in 1937. Part of the fall was due to tariffs, which might have been revised; but there were also a number of more permanent influences, due to a change in the type of goods

¹ It is estimated that in 1931 the gross reproduction rate was lower in Sussex than in any county of England and Wales except Cardiganshire. D. V. Glass, *Changes in Fertility in England and Wales* (in *Political Arithmetic*, ed. L. Hogben, 1928).

required in the area which the port serves. The drop in the demand for coal after the establishment of the Grid and a change in the type of road material commonly used are examples, though tariffs were at least partly responsible for the latter change. A drop in imports of hunters and oats from Ireland, not a matter of great importance in itself, had the much more important result of causing one coastal line to cancel its callings at Newhaven. The proximity of the Thames and Medway ports and of Shoreham Harbour made it impracticable to compensate for falling demand in the area served from the port by setting out to serve a wider area; there was reason to doubt whether any practicable improvement in efficiency or reduction of port charges would have had much effect in this respect. The mechanization of the port increased in the last years before the war, and the traffic which remained was being handled with growing efficiency by a smaller labour force. Unemployment at Newhaven was not high by national standards—it was between $7\frac{1}{2}$ per cent and 8 per cent in 1929 and 1937, and about 16 per cent in 1932—though considerably higher than unemployment in Sussex generally; the general downward tendency of the port was best reflected in the decline of the population of Newhaven Urban District from 7,400 in 1931 to about 7,100 in 1938. There was only one factory in the town, apart from the Southern Railway Company's works, and there was little possibility of developing a tourist trade. Newhaven is not an attractive town for tourists, and even re-development, which is badly needed, could probably have done little more than to provide better living conditions for the existing population; the lie of the land makes it difficult to re-plan the town in such a way as to turn it into a tourist or residential centre.

The problems of pre-war development. While it is important that the problems of areas such as Newhaven, or the agricultural districts where development tended to lag, should not be overlooked under the general impression of prosperity in the South-east, it is clear that the difficulties of these areas were of secondary importance before the war in relation to the Home Counties as a whole. The main problem was not so much to stimulate development as to control it.

On the one hand the rapid industrial and residential development of the Home Counties naturally raised complicated questions of physical planning, including both the local problems which arise in any rapidly developing area and the special problems connected with the growth of London. It cannot be said that either type of problem was solved with conspicuous success. Peacehaven, near Newhaven, is perhaps the outstanding example in the Home Counties of failure to solve a local problem; but there are a number of other places along the South Coast, or in inland areas, such as Slough or the newer parts of Oxford.

where the absence of adequate planning is almost equally obvious. A danger was apparent before the war that the parts of Hertfordshire, Berkshire, and Buckinghamshire nearest to London would be submerged in the flood of development moving outwards from the centre; some districts of Hertfordshire, though not of the Hertfordshire survey area, were already within the continuously built-up area of London. The planning problems which have arisen round the fringe of Outer London are considered in more detail below, in the discussion of Greater London, and it is unnecessary to do more here than to stress that parts of the Home Counties were becoming subject to the same conditions.

On the side of economic planning the chief problem in the parts of the Home Counties where industry or housing was extending was to secure a sound balance of development, partly to avoid immediate difficulties and partly as an insurance against the future. The prosperity of the Home Counties in a time of national and world depression showed clearly enough that their economic development was in general on sound lines. At the same time, the problem of achieving a satisfactory balance was real enough in all areas, and in certain districts where it was not solved the failure involved a definite threat to future prosperity. The way in which this problem presented itself can be illustrated from two areas of different types; in one a comparatively satisfactory solution was reached, and in the other not.

TABLE 97

OXFORD: PERCENTAGE OF INSURED WORKERS UNEMPLOYED IN THE MOTOR, CYCLES, AND AIRCRAFT GROUP. THIRD MONDAY OF EACH MONTH

	Best month of the year	Worst month
1934	2.0	28.8
1935	2.4	26.8
1936	2.8	16.9
1937	2.7	25.5

From *Social Services in the Oxford District*, Vol. I, pp. 104-5. 1940. The statistics refer to an area rather larger than the Oxford Employment Exchange area.

Much the most important case in the Home Counties of dangerously unbalanced industrial development was Oxford, where the rise of the motor industry introduced both an element of uncertainty over the future and a number of more immediate economic problems which were absent when the town depended primarily on the University. There was considerable seasonal unemployment in the motor industry down to the war; attempts by Morris Motors to spread employment more evenly in the last year or two before war broke out had only a limited effect. The total amount of unemployment

in Oxford was small—the monthly average percentage of unemployment in the last years before the war was usually about the average for the South-east—but seasonal fluctuations were large enough to cause considerable inconvenience. There was also a danger of persistent unemployment in the future among older men and women. The workers required by the motor industry are for the most part young or middle-aged, and it was not clear whether work would be available in Oxford in (say) twenty years' time for immigrants who came in during the 'twenties and 'thirties as the motor industry developed, and who were liable to be displaced as they grew older.

There was enough uncertainty over the future of the motor industry itself to cause a good deal of local anxiety. It was widely believed, with some *prima facie* justification, that there was a risk that the Morris Motors assembly plant and the works associated with it might be removed from the Oxford district to the Midlands, with the effect of turning Oxford into a depressed area. There is no obvious reason, apart from Lord Nuffield's personality, why Oxford should be a centre of the motor industry; a site in the Midlands, from which in any case engines and other components have to be drawn, might well seem more conducive to efficiency. Attention was also beginning to be paid before the war to the danger of severe cyclical fluctuations in the motor trade. Oxford's problem in this respect is essentially the same as Coventry's.¹ The slump of the early 'thirties occurred at a time when the motor industry was still developing rapidly, and Oxford escaped comparatively lightly; there is a danger that, if any future slump should occur after the long-term trend of motor production has flattened out, depression in Oxford may be very severe.

A little was being done in Oxford before the war to meet these threats. The Pressed Steel Company was beginning to produce domestic appliances as a sideline; refrigerators were the first product. Further lines unrelated to the motor trade have been opened up by this company since 1939. There was talk, which has received more definite expression during the war, of a trading estate designed partly to accommodate small local firms which should be moved to new sites and partly to attract new firms which might employ labour of the types not required by the motor industry. But little had in practice been done; the fact remained that there was very little manufacturing industry in Oxford outside the motor trade. In 1937 the only important firm, apart from the motor firms and the University Press, employed about 500; Morris Motors and the Pressed Steel Company together employed between 10,000 and 11,000. There were possibilities of development in other directions, as well

as in manufacturing industry. The tourist trade was perhaps the most important; Oxford's attractions as a tourist centre could have been greatly increased both by measures of town-planning and, more particularly, by an improvement in hotel accommodation. But here again little was actually done before the war.

There is an obvious parallel between the development of the motor industry since the end of the last war at Oxford and at Luton. Luton was less dependent on the motor industry than Oxford at the outbreak of the present war, and until the Survey's work on the future of Luton industries is finished it is impossible to say with any certainty what the prospects are; but it may at least be posed as a question for further investigation whether the decline in the relative importance of hat manufacturing and the rise of the motor industry may not have increased Luton's sensitivity to cyclical fluctuations to a dangerous extent. The hat industry is comparatively insensitive to cyclical movements; employment in hat and cap manufacturing in the country as a whole fell by no more than $8\frac{1}{2}$ per cent between the summer of 1929 and the summer of 1931, which for this industry was the worst year of the slump of the early 'thirties.

The other area which illustrates the problem of balance as it showed itself in pre-war development is Sussex, which, being mainly a residential and holiday area, was faced with problems of a different kind. Each of the three main forms of development in Sussex, in connexion with the tourist trade, the growth of a dormitory population, and the influx of retired people and rentiers, brought with it certain disadvantages, and the problem was to secure a shape and balance of development which would minimize the disadvantages of each type taken separately and of all three taken together. The disadvantage of excessive dependence on a dormitory population needs no emphasis. The tourist trade brought with it a strong element of seasonality, though this was considerably less marked in Sussex than in some other tourist areas. An average of 6.3 per cent of all insured workers in Brighton were unemployed at the peak of the season in each year from 1934 to 1936 and 11.3 per cent in the worst winter month, giving an average difference of 4.9 per cent; the corresponding difference for Blackpool was 15.8 per cent. In some other Sussex towns seasonal unemployment was more severe and the peaks higher; at Hastings an average of 15 per cent of all insured workers were unemployed in January of each year between 1932 and 1939, and between 1937 and 1939 unemployment in peak months at Hastings was higher than in the country as a whole. The influx of retired people, while providing a more stable demand for local services, had serious social disadvantages. One Survey report comments on the existing population of pensioners along the East Sussex coast as 'an inert mass, the vast majority of whom neither

could nor would participate in any developments of a social or industrial character'.

'Though many are wealthy persons, there are many more with small independent incomes, and if taxation rises, or remains at the same level for any considerable time, the presence of this aging mass of unoccupied persons, with ever-shrinking incomes, may present a serious social problem.'

The reference to declining incomes of course applies chiefly to people with a fixed rate of pension, and not so much to rentiers with capital on which to draw. In addition to their other disadvantages, all of the three main types of development in Sussex before the war tended to increase the dependence of the people living and working locally on a range of service occupations in which earnings and conditions of employment were in many ways unsatisfactory.

The actual course of development in Sussex appears in practice to have been reasonably sound from an economic and social point of view, if not from the point of view of physical planning; the worst dangers of seasonality or of excessive dependence on any form of development were avoided down to the war, and a considerable measure of prosperity was achieved. In some directions more might have been done. Apart from the agricultural problem and the special problem of Newhaven, the least satisfactory feature of the situation which existed at the outbreak of war was the amount of poverty and depressed living conditions which still remained in some Sussex towns. The solution of this problem lay largely in such directions as the improvement of social insurance, the regulation of conditions of work in the main local trades, or housing programmes; but it is possible that something might also have been done by encouraging the growth of manufacturing industries, providing an alternative to the main local occupations and more non-seasonal work. Some industrial development did occur in Sussex before the war, though most Sussex planning authorities took little interest, and some were actively hostile. In Portslade and Brighton, in particular, there appears to have been a steady demand for sites for the clean light industries which can reasonably be established in a coastal resort; development of this kind might well have been given greater encouragement.

The war: post-war problems. The war has not solved the main pre-war problems in the Home Counties; the problems of planning, of the areas in which development has tended to lag, and of securing a satisfactory balance of development are likely to reappear in much the same places as before. There is no reason to suppose that the war will prove to have altered the general direction of the trend of industrial development; unless specific action is taken to prevent

pre-war tendencies from reasserting themselves, the rapid development of the South-east is likely to be resumed. The chief effect of the war on the economic development of the Home Counties—apart, of course, from purely temporary effects which will disappear at the end of the war—has been to raise new short-term problems in Sussex and the areas nearest to London and to create a number of new opportunities, as well as some dangers, in some of the districts on the fringe of the Home Counties farthest from London.

In Hertfordshire, the parts of Berkshire and Buckinghamshire within easy reach of London, and around Oxford there has been during the war a considerable influx both of industries and of evacuated offices, as well as of individuals who have moved out of London while continuing to work there. On a rough estimate,¹ the population of the five counties north and west of London increased about 25 per cent between the middle of 1938 and the end of 1940, while the population of England and Wales as a whole fell 3 per cent. There is little sign anywhere in this area of more than temporary dislocation after the war; a detailed examination of the position in different Hertfordshire towns, for instance, shows only one case where there is even a suggestion of a possible surplus of labour. This is a case in which there was some unemployment after the last war, and the same factors may (or may not) operate again. Over most of Hertfordshire the question is whether enough labour will be available after the war to carry out manufacturers' plans. There is likely to be less shortage of labour in most other areas; but, except perhaps at Slough, there is no reason to expect a surplus in the long run.

In the short run there will undoubtedly be difficulty in some districts in re-starting industries closed or contracted during the war. Hertfordshire is again an example of the way in which the problem is likely to present itself over a large part of the Home Counties. Firms which were operating in Hertfordshire before the war have in most cases continued to make either their normal products or some form of munitions; there has been little concentration, and few firms have been closed down. There will be no lack of demand for their normal products—it may be suggested, in fact, that the chief problem will be to ensure that Hertfordshire firms do not neglect markets of long-term national importance, including particularly export markets, in the rush of demand which is likely to follow the war. In spite of these advantages, there will undoubtedly be difficulty in re-starting normal production in many Hertfordshire factories; parts of works have been taken over for storage or for evacuated firms, factories have been converted for munition work, and in some cases, especially the paper industry, there may be a temporary shortage of raw materials.

¹ The war-time figures refer to civilian population only.

The short-term problem of re-starting normal production links up with the more important problem of providing for the influx of factories, offices, and workers. There has been a good deal of new industrial building in the parts of the Home Counties nearest to London, or in districts such as the Kennet Valley between Reading and Newbury, and in most cases the new works are of types which are likely to be of permanent value; even in the case of some of the larger and more specialized works, some form of adaptation should be possible. These works will no doubt be acquired by some of the firms which have come into this area during the war. Several of the firms which have moved their offices into the area, including some whose offices give employment running into thousands, are known to have bought suitable property and to be likely to leave their offices, or parts of them, permanently on their new sites. A few of the individuals who have moved into the area may also remain in any case.

It is clear, however, that for large numbers of firms and individuals who have left London during the war there will be strong pressure to return as soon as the war is over. The factors at work have been discussed elsewhere; it is unnecessary to say more here than that the evidence for the way in which they are working comes largely from this area. It appears on the one hand that there is a danger of a rush, or at any rate of a pressure, to return to London, due largely to the lack of adequate housing (including middle-class housing—it is largely a problem of office workers), of amenities available in London, and of vacant factories and office buildings; on the other hand, there is reason to think that a large part of the movement back to London might be stopped if priority were given for the necessary new building in the Home Counties. The importance of taking action in this matter can be appreciated when it is considered that the civilian population of the five counties north and west of London cannot have been much less than half a million greater at the end of 1940 than in 1938; half a million is the number by which the authors of the County of London Plan¹ proposed that the population of the crowded areas of Central London should be reduced.

If action is to be taken, it is essential that there should as soon as possible be a single plan covering the whole area affected by the movement or potential movement out of Greater London. Experience before the war in development round the edge of Outer London showed clearly enough (the point is argued more fully in the next chapter) that such a plan is in any case necessary as a guide to long-term development; it is no less essential in the short term if a satisfactory scheme of priorities is to be laid down. There is a natural and reasonable tendency for public authorities, who appear likely to

¹ Chapter XV, p. 441.

be responsible for almost all housing in the first years after the war, to pay most attention to the needs of people long settled in their areas; it is only if their attention is specifically directed to the problem that they are likely to pay enough attention to the needs of new settlers or potential immigrants. There is the further point that the natural course after the war will be to build first in the badly bombed areas, and to leave relatively well-housed and little damaged areas such as Hertfordshire or Berkshire somewhat in the background; and the tendency will be to build working-class houses, and to leave houses of a more expensive type till later. Both of these tendencies will have to be resisted if full advantage is to be taken of the opportunity offered by the war to secure at a blow a large reduction in the population of Central London; but neither is likely to be resisted unless a scale of priorities can be based on a clear plan generally understood and accepted by the public.¹

In the areas of Oxfordshire and Buckinghamshire farthest from London there have been two main changes which may be of importance for the future. The first is the establishment of new industries in or near many of the small market towns which form a half-circle round Oxford. Few of these industries, except perhaps in the east of the area, where the need for them is least, seem likely to remain permanently without special encouragement. It is not impossible that others might remain if the right inducements were found; and in several cases it would be well worth while to retain them. These market towns are in a number of cases the centres of the agricultural areas which were declining before the war. Whatever agricultural policy may be adopted in future, there is no doubt that the permanent establishment of a number of new small industries would be of great value in these districts.

There is one area, Wolverton, where there is some reason to think that the war may have stimulated changes in an established industry which may result in unemployment after the war; it is possible that the L.M.S. works, on which Wolverton is overwhelmingly dependent, may employ fewer workers than before, and that the situation may be aggravated by the decline of luxury motor-body building at Newport Pagnell, in the same district. It has already been emphasized that further industrialization is desirable here and round Banbury (where there is definite reason to expect further development) to counter-balance the decline in agriculture, as well as for the benefit of existing industrial workers; this has been fully recognized by the responsible planning authorities in both Oxfordshire and Buckinghamshire.

Sussex is in a somewhat different position from the rest of the Home Counties. Its coastal areas are in the front line, and, while the population of many inland districts has increased, the county as

¹ A plan for the Greater London region has now been published: cf. p. 450.

a whole has had nothing approaching the influx of population and industry experienced by counties to the north and west of London. Strategic factors have prevented any extensive new industrial development, though there has been some development which may prove to be of permanent value. Air-raid damage in some towns has been severe. The problems of re-starting normal occupations may be particularly difficult here, especially in the eastern part of the county, not only because of the problems which will have to be faced in rebuilding, reconditioning, and refurnishing hotels, boarding-houses, and shops, but also because the evacuation of part of the resident population and the partial stoppage of the tourist trade have made it difficult or impossible for individuals and firms to build up financial reserves for reconstruction. In this respect Sussex is at a definite disadvantage by comparison with, for example, the North Wales or Lancashire coastal resorts.

When these difficulties are overcome there is every reason to expect that the pre-war trend of development in Sussex will be resumed. The tendency for the average age of the population to increase remains. Holidays with pay have been extended further during the war; the grant of holidays with pay before the war had in any case not had time to produce its full effects on the holiday districts before war broke out. The improvement of communications with London and within Sussex had not produced its full effects before the war; the electrification of the main line into West Sussex was completed only in the summer of 1939. Considerable further improvements in communications are possible. The pre-war problems of planning and the backward areas will presumably reappear, and the difficulty of preserving a satisfactory balance of development may well be intensified as a result of the growing demand for cheap holidays. As a general rule it is the more exclusive resorts which are least seasonal; the contrast which has been quoted between the level of seasonal unemployment before the war at Blackpool and in some Sussex towns is an illuminating example. The demand for cheap holidays will have to be met; but great care will have to be taken to avoid undesirable repercussions on the economic structure and average annual level of employment in the tourist districts. What has been said in this respect of Devon can be applied broadly to Sussex.¹ The measures initiated during the war to improve wages and conditions in the catering trades and domestic service should be of particular value to Sussex workers, in view of the great local importance of these groups.

There is one long-term problem which the war seems likely to emphasize in Sussex and the rest of the Home Counties alike. After the last war there was a tendency for the big houses and estates in

¹ Chapter XIII. pp. 380-1.

Sussex to be sold off, and in some cases this was the origin of highly undesirable speculative developments. There is reason to think that there will be a similar and stronger tendency after the present war. Primarily, of course, the problem presented is one of ordinary town-planning control; but the question is also raised whether steps should not be taken by local or national authorities in at least some cases to take over and use the big houses and the land attached to them for purposes such as schools, hospitals, or youth or holiday centres. Problems of a somewhat similar kind are already showing themselves in Hertfordshire, and may well arise in several other parts of the Home Counties; they are incidentally also apparent in Hampshire.

SOUTHAMPTON AND PORTSMOUTH

The South Hampshire survey area falls into three districts, the area round Portsmouth, the area round Southampton, and the New Forest; a fourth area, Bournemouth, was covered only to a limited extent. Of these areas, Portsmouth and the district round it present potentially the greatest post-war problem. Portsmouth depended before the war predominantly on the Navy. There was a large population of pensioners and Service men's dependants, and the leading local industry was shipbuilding and marine engineering (Table 98).¹ Little of this shipbuilding and marine engineering work was for civilian customers; even the local yacht builders were concerned largely with Admiralty orders for small craft. Altogether, at the date of the Census of 1931 almost exactly a third of the occupied population of Portsmouth actually in work were engaged in shipbuilding and marine engineering or in the category 'defence', and 97 per cent of the shipbuilding and marine engineering workers were recorded as employed by the Government. The commercial use made of Portsmouth Harbour before the war was negligible; between 1934 and 1938 imports averaged £500,000 a year and exports £33,000, which put Portsmouth about on a level with Bridgwater or with Carlisle and Silloth. Apart from naval work, Portsmouth's leading industry before the war was aircraft manufacturing. There were a number of minor manufacturing industries, including particularly a group of corset factories, and there was a small tourist industry at Southsea.

There was considerable immigration into Portsmouth during and immediately before the last war, and not all of the immigrants were able to find work after 1918. Nearly 12,000 people, on balance, appear to have moved out of Portsmouth between 1921 and 1926. From the middle of the 'twenties down to the present war the town was relatively prosperous. Unemployment between 1927 and 1929

¹ The insured population to which Table 98 refers does not include men in the Navy or established Civil Servants.

TABLE 98

ESTIMATED NUMBER OF INSURED PERSONS, AGED 16-64,
JULY 1923 AND JULY 1937

Industry	Estimated No. of insured aged 16-64		Increase (+) or Decrease (-)		No. in each industry as % of total insured July 1937	
(a) PORTSMOUTH	July 1923	July 1937	No.	%	Portsmouth	Great Britain
Shipbuilding and Repairing	9,060	9,010	- 50	- 1	12.9	1.2
Marine and Constructional Engineering	2,140	3,000	+ 860	+ 40	4.3	0.7
Electrical Engineering	940	1,770	+ 830	+ 88	2.5	0.9
Motors, Cycles, Aircraft	440	1,580	+ 1,140	+ 259	2.3	2.6
Chemicals	1,550	1,660	+ 110	+ 7	2.4	1.7
Bread, Cakes, etc.	800	1,150	+ 350	+ 44	1.7	1.3
Building	3,640	6,150	+ 2,510	+ 69	8.8	7.7
Public Works	1,140	1,840	+ 700	+ 61	2.7	2.2
Tram and Bus Service	1,120	1,450	+ 330	+ 30	2.1	1.5
Other Road Transport	960	1,150	+ 190	+ 20	1.7	1.5
Distribution	9,400	16,630	+ 7,230	+ 77	23.9	15.2
Hotels, etc.	1,940	2,310	+ 370	+ 45	4.0	3.3
Laundries, Cleaners	760	1,130	+ 370	+ 49	1.6	1.3
Gas, Water, Electricity	1,180	2,040	+ 860	+ 73	2.9	1.6
Other Industries and Services	16,520	18,260	+ 1,740	+ 11	26.2	57.3
Total	51,590	69,630	+ 18,040	+ 35	100.0	100.0
(b) SOUTHAMPTON					Southampton	Great Britain
Dock and Harbour Service	4,060	4,860	+ 800	+ 20	7.2	1.2
Shipbuilding and Repairing ¹	8,780	7,090	- 1,690	- 19	10.5	1.2
Motors, Cycles, Aircraft	750	3,990	+ 3,240	+ 432	5.9	2.6
Electric Cables, etc.	1,100	1,780	+ 680	+ 62	2.6	1.3
Building	2,630	5,100	+ 2,470	+ 94	7.6	7.7
Public Works	370	1,400	+ 1,030	+ 278	2.1	2.2
Tram and Bus Service	620	1,010	+ 390	+ 63	1.5	1.5
Other Road Transport	720	1,090	+ 370	+ 51	1.6	1.5
Distribution	8,090	13,040	+ 4,950	+ 61	19.4	15.2
Hotels, etc.	1,160	1,920	+ 760	+ 66	2.9	3.3
Laundries, Cleaners	610	1,070	+ 460	+ 75	1.6	1.3
Gas, Water, Electricity	1,100	1,030	- 70	- 6	1.5	1.6
Other Industries and Services	22,460	23,950	+ 1,490	+ 7	35.6	59.4
Total	52,450	67,330	+ 14,880	+ 28	100.0	100.0

From the Ministry of Labour's evidence to the Barlow Commission.

¹ The number of seamen insured at Southampton fell from 15,273 in 1928 to 11,582 in 1937, a decrease of 3,691, or 24 per cent. In 1937 seamen accounted

was about the national average. During the slump of the early 'thirties it was well below the national average, since cuts in defence expenditure fell principally on private shipbuilders. At the end of the 'thirties rearmament and the expansion of electrical engineering and the aircraft industry (the expansion of the aircraft industry was of course due largely to rearmament) carried unemployment well below the national level. Over the whole period from 1923 to 1937 the insured population of Portsmouth increased 35 per cent, against the national average of 22 per cent.

The war has caused a good deal of air-raid damage in Portsmouth, and some dispersal of the population; but these are largely short-term changes. The main long-term effect of the war is to cast doubt on the suitability of this area for a naval base as important as Portsmouth. The view which the Admiralty will take on this question is naturally unknown; but it seems highly probable that at least some of the work done before the war at Portsmouth will be transferred to less vulnerable areas. If the total amount of naval work to be done in the country as a whole were not much larger than before the war, and if Portsmouth's share were reduced to any great extent, the effect on employment both in Portsmouth itself and in the surrounding districts would be serious. The situation may well be aggravated by a decline in employment in the aircraft industry below the level even of 1937.

Various ways of dealing with the unemployment which might arise can be suggested, though their adequacy cannot be judged until more is known of the size of the problem to be solved. The expansion of the building industry should provide a good deal of employment. The tourist industry should be capable of development, and various suggestions have been made locally for increased commercial use of the harbour. It was stated in January 1944¹ that the Portsmouth City Council were seriously considering the possibility of developing a flying-boat and seaplane base for civil use in Langstone Harbour, with barrages to ensure a constant water level and with a land base on Farlington Marshes at the head of the harbour. It is by no means certain whether it would be appropriate to establish a new base of this kind at Portsmouth, in view both of the facilities (especially for land planes) already available elsewhere and of the arguments quoted below in favour of establishing a main air terminal of this type at Southampton; in any case the creation of a base on this scale is a matter of Government policy, which has not yet been declared. Suggestions have also been made for increased commercial use of the main harbour, though in view of the proximity of Southampton it seems doubtful whether much could be achieved in this direction. It should be possible to bring about some net

¹ *The Times*, 13.1.44.

increase in manufacturing industry, particularly by attracting new small industries of the type already existing in the area; the existing corset factories and firms making furniture, wallpaper, household accessories, toys, and gloves are examples. In some or other of these ways it should not be difficult in the long run to build up a sufficient amount of new employment in a town in Portsmouth's position, in the prosperous South-east and with first-class communications to London. There remains a risk of a gap of some years—possibly of many years, if a large part of the Admiralty's work is moved and adequate measures are not applied to replace it with other employment—during which this area may be depressed.

The district round Southampton presents a much smaller problem. The main industry of Southampton before the war was commercial shipping, with its allied services of ship repairing and dock and harbour service; about a third of the insured workers of Southampton were engaged in these groups of trades in 1937. Southampton ship- and boat-building yards depend to some extent on Admiralty orders; but the importance of this factor is far smaller than at Portsmouth.

Southampton has more than held its own as a port in recent years. The amount of shipping entering the harbour in a year averaged 24,700,000 tons in 1928-9 and 26,000,000 in 1936-7; at the same time, Southampton's share in the tonnage of ships engaged in the foreign trade arriving in British ports rose from 11.5 per cent to 12.4 per cent, and of ships in the coastal trade from 2.9 per cent to 3 per cent. But the improvement in Southampton's relative position did not lead to an increase in employment. The number of seamen insured at Southampton fell from 15,800 in 1928 to 11,600 in 1937 on account of the general depression in the shipping trade and of rationalization, in the form of newer ships and the elimination of competitive sailings. Rationalization also affected the number of workers employed in ship repairing—the number insured fell by nearly 20 per cent between 1928 and 1937—and considerable dock extensions carried out during the depression after 1930 did not lead to increased employment for either permanent or casual labour.

In addition to the direct employment at Southampton in shipping and allied services, there is normally a good deal of employment in works which have been attracted by the port facilities. These include Cadbury's export depot, electric cable manufacturing, a car assembly plant belonging to General Motors, timber importers and joiners, flour mills, tobacco manufacturing and firms manufacturing or dealing in chemicals, paint, bedding and carpets, and seeds. Several of these works are built on land reclaimed at the time of the dock extension. The large Southampton aircraft engineering industry also has some connexion with the port; Southampton Water provides a calm take-off for seaplanes and flying-boats, and among other aircraft

the Spitfire was originally developed here as a seaplane. In 1937 (Table 98) about 4,000 workers in the Southampton exchange area were insured in the motor, cycle, and aircraft group of the Ministry of Labour's classification, and this group provided more employment than any other manufacturing industry except shipbuilding.

Outside Southampton itself there are a number of important firms. The Southern Railway's locomotive works at Eastleigh is the most important; others include cable manufacturing at Eastleigh, a group of small firms at Totton, aircraft manufacture at Hamble and near the Southampton airport at Swaythling, and oil refining at Fawley. Yacht and boat-building are carried on at a number of places. There has been a substantial development of precision engineering at Lymington, some distance farther out from the Southampton conurbation.

There is on the whole no reason to expect a great change in the employment provided by the shipping and allied industries at Southampton. Southampton is likely to keep or improve its position among the British ports, and, unless there is a catastrophic fall in the volume of British overseas trade or (more important from Southampton's point of view) in the number of passengers entering and leaving the country, should have little less traffic than before the war; there might well be more. Air services may cut into passenger traffic; on the other hand, the habit of holiday cruises may spread further. Already in 1937 some 55,000 people travelled on pleasure cruises on British vessels to Mediterranean and European ports; this was only a part of the traffic, and the number travelling on pleasure cruises appears to have been rising. Further rationalization of shipping and harbour services may perhaps cause some fall in employment; but the importance of this factor cannot yet be estimated. The number of workers attached to the port services (not, of course, the volume of employment) seems likely to be permanently affected by the decasualization of dock labour under schemes worked out during the war; a certain number of men will be released for absorption in other industries. On balance, the outlook for Southampton as a port seems neither specially bright nor specially dark. There is no reason to expect either a significant rise in employment or a great fall.

The future of the important aircraft engineering industry is uncertain. It is not even clear whether all the works established in and around Southampton before the war will remain there; how much employment they will be able to provide is even more difficult to predict. There is no reason to expect the very well established aircraft industry of this district to disappear; but, in view of the importance of armament demand even in 1937, it is probable that the volume of employment in aircraft manufacturing will be smaller than it was then. To some extent a decline in aircraft engineering is

likely to be offset by a resumption of the expansion in other manufacturing industries—cables, food, tobacco, electrical equipment, and some others—which was proceeding before the war, and there are prospects of development in the manufacture of builders' requirements; as well, of course, as of expansion in the building industry itself. One firm is known to be experimenting with prefabricated plywood houses, and there should be good prospects for the manufacture of other timber products for the building trade, based on the considerable import of timber to Southampton which was already taking place before the war. What sort of a balance will be struck between tendencies towards decline and expansion, especially in the short run, is impossible to predict with any accuracy. A possible complicating factor is that a number of workers who have come into aircraft manufacturing and other engineering industries during the war, may be unwilling to return to their old occupations after the war and may tend to cause a pool of persistent unemployment to form. 'Many trainees,' to quote a Survey report, 'hope to return to their normal occupations after the war . . . but . . . there are some who look on the system as a preparation for a career or, at least, as an alternative occupation in the future.'

On the whole, there is probably not much danger that Southampton will experience unemployment above the pre-war level. Even at this level, unemployment would be considerable enough to justify a certain amount of encouragement of developments likely to increase the local demand for labour. The *Planning Report*, prepared in 1941 and 1942 at the request of the Southampton City Council, proposed the encouragement of new industrial development on a number of sites; groups of small firms were forming themselves even before the war at Totton and round the airport, and further groupings of this kind might well be developed. More recently, at the beginning of 1944, it was announced that the Southampton Harbour Board had submitted to the Secretary of State for Air a definite scheme for a land and sea air-base at the point where Southampton Water and the Solent meet, with water runways well clear of the main shipping channel, breakwaters, and new rail and road connexions. Whether it will be possible to have bases both at Southampton and at Portsmouth, and which (if either) will be able to build a base if both cannot, has still to be decided. From the point of view of Southampton it can be argued that Southampton is already an important passenger port and has the necessary facilities for handling passenger traffic ready to hand, that the aircraft industry is of more importance to the Southampton district as a whole than to Portsmouth, and that a new base, in addition to giving direct employment, should provide an important stimulus to local aircraft firms. But there are

There is one feature of wartime developments which deserves some emphasis with regard to Southampton and Portsmouth alike. It is desirable to open out the structure of both the Southampton and the Portsmouth conurbations, and wartime movements both of industry and of population may prove to have contributed to this to a substantial extent. There has been some factory building outside the older industrial areas, and there has been a great deal of personal evacuation to the inland districts of Hampshire and to the parts of Sussex and Dorset nearest to Southampton and Portsmouth. Not all of this dispersal of industry and population is of a kind which should be preserved. A great deal of industry has been scattered in small units in areas which would normally be unsuitable for industrial development, and the dispersal of population has probably proceeded further than would be desirable in peace-time. Some part of the wartime dispersal would nevertheless be worth maintaining. The possibility of doing so would be much greater if a rush back to the cities at the end of the war could be prevented. Air-raid damage to residential areas may keep some people away; but the broad impression is that the additional cost and inconvenience of living in a relatively remote area will bring back most working-class people to Southampton or Portsmouth at the earliest opportunity. The damage done to middle-class residential areas has been relatively small, and the incentive to remain away is correspondingly slight. Priority for the remoter areas under housing programmes, efforts to induce new industries or industries reopening after the war to take over newly built factories in these areas, and temporary subsidization of transport costs until an adequate amount of industry has been moved out of the centres of Portsmouth and Southampton would undoubtedly prevent a large number of people from returning too quickly.

In the third district of South Hampshire, the New Forest area,¹ the problem is more to control development than to encourage it. The main problem is the preservation of amenities, and the measures required are principally matters of physical and not of economic planning. Wartime developments—the growth of industrial traffic, inadequately controlled felling of timber, sales of land to speculative builders, the erection of unsuitable temporary buildings, and the like—have emphasized the need for strong control. The publicity given early in 1944 to the refusal of a local planning authority to allow the establishment of a branch of Dr. Barnardo's Homes suggested that the local conception of the amenities to be protected might be somewhat narrow; but of the need for strong action there can be no doubt.

The future of the New Forest does raise, in addition to problems

¹ The fourth area, Bournemouth, is not covered in detail here.

of physical planning, one problem of economic planning of considerable importance. The coast of Hampshire south and east of the Forest, and westwards to Bournemouth and Poole, is already largely developed as a holiday area, and there is every reason to expect that the importance of the tourist trade here will increase after the war. In a report published in 1939¹ the Committee of Planning Officers for the New Forest stressed the importance of ensuring that the development of the tourist trade should not be allowed to destroy the character of the Forest as a nature reserve—not merely as a piece of picturesque country, but as an area whose wild life required in the national interest to be given a reasonable measure of protection. While this should not involve interference with walkers or others likely to appreciate the quality of the Forest, it was important that nothing should be done to draw into or through the Forest ‘those visitors whose main delight is in mechanical amusement’, and the character of the facilities available for tourists at Lymington and other places in or to be reached through the Forest should be regulated accordingly.

¹ Forestry Commission, *Protection of the New Forest*, Report of the Committee of Planning Officers, 1938-9.

CHAPTER XV

LONDON¹

LONDON INDUSTRIES BEFORE THE WAR

'THE commercial and distributing function alone'—to quote the Barlow Commission's description of London industries—

'provides employment for a considerable population, which in turn gives employment in local industries to a further group. But London is much more than that. In quite early days it became a centre of handicrafts and cottage industries that have since become factory industries, with the result that it is now an important centre of such industries as leather tanning and dressing; boot and shoe manufacture; the finishing sections of a number of iron and steel trades; tailoring, dressmaking, millinery, etc.; the production of paper, and of chemicals, dyestuffs, and drugs. As a port it was once largely engaged in the building of wooden vessels, and it is still an important ship-repairing centre; it has also become one of the chief grain milling centres. It is also the largest centre of the timber trade. Having always been the main commercial centre of this country, London has grown to be a large factory centre. Its growth as a manufacturing centre has also been fostered by the fact that it is the capital city and the centre of the British Commonwealth, the chief centre of the printing and publishing trades, and the Mecca of tourists both from within the country and from other parts of the world, with the result that it maintains public utility services and miscellaneous services on a scale unknown elsewhere in this country.' (Barlow Report, par. 67.)

As the description suggests, London's economy has three main foundations. Historically, the first is the Port of London, along with the commercial and financial activities associated with it. Direct employment in these groups is relatively small; in 1938 only 4½ per cent of the insured population of Greater London were engaged in commerce, finance, the shipping service, ship repairing, or port services. As a whole, this group of occupations was not outstandingly prosperous before the war. It is true that the Port of London more than held its own in competition with other ports in Great Britain; the net registered tonnage using the Port of London was equivalent to 13 per cent of the net registered tonnage entering and leaving all

¹ The Greater London Survey Area consists of the Metropolitan Police District, which corresponds almost exactly to the London Civil Defence Region. Table 99 refers to the Ministry of Labour's Greater London area, which is approximately the same.

British ports shortly before the last war, and to about 15 per cent in 1929 and 16½ per cent in 1937. London's share in the combined imports and exports of all the ports in the United Kingdom rose from 29·3 per cent in 1913 to 34·2 per cent in 1929, and to 37·3 per cent in 1937. But this increasing share was taken from a diminishing total volume of trade; though price changes make a comparison difficult, it is doubtful whether the actual volume of London's trade was very much greater in 1937 than in 1913.¹ This comparatively steady volume of trade was handled with increasing efficiency, and, though there was no startling decline in employment in the port services,² a large rise could scarcely be expected.

The commercial and financial activities associated with London's trade have been influenced by the same factors as the port services. London, as the Port of London Authority put it, 'has for long been regarded as the best market', both nationally and internationally. Large quantities of goods for use in other parts of the country are marketed in London and pass through the Port, and London is pre-eminent among British ports as the centre of world finance and multilateral trade; the City has in the past financed trade between all parts of the world. London's marketing and financial activities have been affected by the general change in the volume of British overseas trade and in its importance as an element in the national income, and activities in connexion with London's position as a world centre of finance and commerce have been particularly affected by the growth of exchange controls and the decline of multilateral trading since the war of 1914 to 1918. The symbol of the restriction of these activities has been the decline in London's transit trade. In 1913, 23 per cent of London's imports were re-exported, against 14 per cent for the whole United Kingdom. In 1927 and 1928 London's proportion of re-exports was still 16 per cent, against 10 per cent for the United Kingdom. By 1937 the figures were 10 per cent for London and 7 per cent for the country as a whole. London's share in British re-exports had increased by 1937 from between 50 per cent and 55 per cent before the Great War to round 60 per cent; but its size and importance had been sharply reduced.

In spite of these developments and of the relatively small direct employment provided by the Port of London, commerce and finance, this group of occupations remains one of the chief foundations of London's economy. An important part of the transport and other service industries in London depends indirectly on the Port and its

¹ On a rough estimate, the total value of London's trade might have increased by about an eighth between 1913 and 1937 if prices had not changed. This may be an over-estimate.

² The reference is to the port services as defined in the Ministry of Labour's classification. There was a heavy decline—30 per cent between 1923 and 1937—in the number of insured workers in shipbuilding and repair.

related activities, and there are many manufacturing industries whose existence at London is wholly or partly due to the existence of the Port and of financial and commercial facilities. Large sections of the food, leather, chemical, woodworking, paper, and non-ferrous metal industries—the list is not complete—owe at least their origin in London, and sometimes their continued existence, to the Port and the facilities which are linked to it.

Secondly, London is the chief centre in Great Britain of administration and services. In 1938 some 38 per cent of the insured workers of Greater London were engaged in transport (apart from the Port), distribution, and the group of miscellaneous services, against 26.3 per cent for Great Britain as a whole. Both these figures exclude domestic servants, another group in which London has an exceptionally large share. To some extent—in transport, for example—the relatively large size of these industries in London is due to London's own needs; but to a very great extent the service occupations in London exist to meet the needs of the rest of the country. London's importance as a centre of administration is understated by Table 99, which is based on figures of insured population; London's importance in administration is due chiefly to the presence in London of branches of Government service which have not hitherto been insurable occupations. The table shows the proportion of London workers engaged in national Government service as less than half as high again as the proportion in Great Britain as a whole. The Census of 1931 showed the proportion in London more correctly as double the national proportion. In the case of administration, as in the case of the Port and its related activities, the importance of London's relatively large share is due at least as much to its indirect effects in encouraging other industries and services as to the additional direct employment provided. In the administrative and service group as a whole employment was rising rapidly before the war, and London's relatively large share in these groups has been a chief cause of prosperity.

Thirdly, London is an important manufacturing centre. The Barlow Commission's description gives an accurate enough impression of the leading London manufacturing industries. Clothing, a variety of food industries (including breweries), printing and publishing, electrical engineering and apparatus, general engineering, a great variety of miscellaneous metal industries, motors and aircraft, watches, clocks, musical instruments, scientific and photographic instruments and apparatus, furniture, a mixed selection of chemical industries, leather, paper manufacturing, and some secondary paper industries—these are some of the outstanding groups in a long list. There are heavy industries in London, and industries producing capital goods—the L.N.E.R. locomotive works at Stratford is an example of an industry which combines both characteristics—but

TABLE 99—GREATER LONDON
INDUSTRIAL DISTRIBUTION OF INSURED WORKERS, Aged 16-64, 1938

Category and Group	No. insured: London	% of insured population			
		London		Gt. Britain	
<i>Port of London</i>					
Shipping Service	24,330	0.8		0.9	
Shipbuilding and Repairing	10,200	0.3		1.1	
Dock, etc., Service	43,370	1.4	2.6	1.1	3.2
<i>Other Transport, etc.</i>					
Railways	37,070	1.2		1.1	
Tram and Bus	58,860	2.0		1.1	
Other Road Transport	58,190	1.9	5.2	1.4	3.6
<i>Distribution</i>					
Distributive Trades	563,540	18.8	18.8	14.1	14.1
<i>Administration, Commerce, Finance</i>					
Commerce and Finance	55,360	1.9		1.9	
National Government	51,810	1.7		1.2	
Local Government	74,120	2.5	6.1	3.0	6.1
<i>Services</i>					
Professions	71,080	2.4		1.5	
Entertainments, etc.	39,870	1.3		1.0	
Hotels, Clubs, etc.	184,170	6.2		3.4	
Laundries, etc.	62,650	2.1		1.2	
Gas, Water, Electricity	61,490	2.1	14.0	1.5	8.6
<i>Building, Contracting</i>					
Building	237,860	8.0		7.1	
Public Works Contracting	42,580	1.4	9.4	2.2	9.3
<i>Food, Drink, Tobacco</i>					
Food	102,570	3.4		2.9	
Drink	26,220	0.9		0.8	
Tobacco	12,820	0.4	4.7	0.3	4.0
<i>Textiles and Clothing</i>					
Textile Trades	26,100	0.9		7.3	
Boots and Shoes	14,080	0.5		1.0	
Clothing	164,300	5.5	6.8	3.4	11.7
<i>Metals (excluding Ships)</i>					
Electrical Engineering	18,710	0.6		0.8	
Other Engineering, Foundries	134,330	4.5		5.7	
Electric Cables, Apparatus	98,440	3.3		1.2	
Iron and Steel Manufacturing	1,010	0.0		1.3	
Non-ferrous Metal Manufacturing	7,940	0.3		0.3	
Other Metal Industries	90,850	3.0		3.2	
Vehicles and Aircraft	81,900	2.7	14.5	3.1	15.6
<i>Other Main Industries¹</i>					
Printing, Publishing, Book-binding	110,730	3.7		2.0	
Wood, Furniture, etc.	85,620	2.9		1.7	
Chemicals, Explosives, Oils, Paint, etc.	69,470	2.3		1.7	
Leather and Leather Goods	26,510	0.9		0.5	
Cardboard Boxes, Paper Bags, Stationery	25,990	0.9		0.5	
Scientific and Photographic Apparatus	24,560	0.8	11.5	0.3	6.7
<i>Other Industries and Services</i>	157,870	5.3	5.3	12.4	12.4
<i>Total (excluding Agriculture)</i>	2,956,560	98.9		95.2	
<i>Agricultural Scheme</i>	34,110	1.1	1.1	4.8	4.8
Total	2,990,670	100.0		100.0	

these industries are relatively rare. As a whole, London industry is concerned with consumers' goods and with the lighter processes, that is, with industries of the type which were growing fastest before the war.

In a way the most striking feature of the list of London industries is not so much what it contains as what it omits. The typical depressed industries of the two decades before the war are relatively unimportant in London. Coal mining does not appear at all. It does appear in the list of industries in London and the Home Counties¹ supplied to the Barlow Commission by the Ministry of Labour; but it appears as an expanding industry. The number of coal miners insured in London and the Home Counties actually more than trebled between 1923 and 1937, from 2,200 to 7,700, as a result of the development of the Kent coalfield. Iron and steel manufacturing is negligible in Greater London. The textile industries included in 1938 less than 1 per cent of the insured workers in London, against 7·3 per cent in the whole of Great Britain. The leading London textile industry was hosiery, and cotton and woollen spinning, weaving, and finishing were almost non-existent. Ship repairing is a large London industry, and London provided an important part of the employment in this industry in the country as a whole; but even ship repairing is important in relation to total employment in only a few districts of London. In London as a whole it is relatively unimportant.

In its freedom from depressed industries Greater London resembles the Home Counties, and the Ministry of Labour was able to show the Barlow Commission that, out of forty main occupational groups, including over 80 per cent of the insured population of London and the Home Counties together, only four, containing in 1937 3·4 per cent of the insured population, had fewer workers attached to them in 1937 than in 1923. The only one of these four to show a severe fall was shipbuilding and ship repairing. The fall in this group was 30 per cent; the next heaviest fall in a manufacturing industry (boots and shoes) was no more than 5·7 per cent.²

In view of London's flourishing manufacturing industries, of its dependence on expanding service trades, and of the relatively favourable position of the Port of London, it is not surprising that London was outstandingly prosperous before the war. London's industries and services were not merely not declining; they were advancing rapidly, and the advance showed itself in the statistics both of new employment and of unemployment. The insured population of the Ministry of Labour's London Division increased between

¹ Kent, Surrey, Essex, Hertfordshire, Bedfordshire, Buckinghamshire, and Middlesex—not the same area as the Home Counties of Chapter XIV. Greater London contains about four-fifths of the insured population of this area.

² There was a rather heavier fall (10·4 per cent) in dock labour and canal services, one of the service trades.

1923 and 1937 by 39 per cent, against 22 per cent for the whole country, and London obtained far more than its share of new development. With a fifth of the population of Great Britain, Greater London obtained five-sixths of the net increase in the number of factories between 1932 and 1937,¹ two-fifths of all the employment in new factories, and one-third of all the factory extensions undertaken in these years. Unemployment in London as a whole was consistently below the national average, and was relatively little affected by the trade cycle. The highest level reached by unemployment in Greater London during the depression of the early 'thirties was 13 per cent in 1932, against $5\frac{1}{2}$ per cent in 1929 and $6\frac{1}{2}$ per cent in 1937. The increase of $7\frac{1}{2}$ per cent between 1929 and 1932 was far smaller than the corresponding increase in Great Britain as a whole; unemployment in London was 5 per cent below the national average in 1929 and $4\frac{1}{2}$ per cent below it in 1937, but between 9 and 10 per cent below it in 1931 and 1932. The high proportion of workers in administration, commerce, finance, and the other services probably contributed more to the relative stability of employment in London than any other factor. But London is also an outstanding example of the advantages to employers and workers alike of the concentration in a single area of a wide variety of growing and adaptable manufacturing industries, backed up with highly specialized and efficient technical, commercial, and financial facilities.

Not every part of London, of course, did as well as Greater London as a whole. Middlesex was more affected by the trade cycle, and there were some districts round the Port of London in which unemployment was frequently about the national average and sometimes rose above it. In the *New Survey of London Life and Labour* Sir William Beveridge pointed out that unemployment in these districts, though a long-standing problem, was in no way similar to the depression due to the decline of industries in the North and West. Its volume was very much the same in 1929, at the date of the Survey, as it had been a generation before, and its character had not changed. It was the result of the organization and customs of trades such as building, ship repairing, and the port services, and not 'the passing consequence of depression'. There are districts in and around London which have suffered in the past from the decay of particular industries; the difficulties experienced after the last war in the district round the Vickers works at Crayford are a good example. But the depression experienced in cases of this kind has been neither common nor prolonged.

As a result of the prosperity of recent decades the population of Greater London has grown very much more rapidly than the

¹ I.e. the number of factories opened in London, minus the number closed, was equal to five-sixths of the corresponding figure for Great Britain.

population of the country as a whole. Between 1801 and the beginning of the twentieth century London's population regularly increased more rapidly than the population of Great Britain. From 1901 till war broke out in 1914 London fell behind; London in these years had a higher rate of unemployment than the country as a whole,¹ and between 1901 and 1921 there was a net emigration from Greater London of about half a million. From 1921 to 1937 London recovered and even surpassed its former rate of relative increase; starting with less than a fifth of the inhabitants of Great Britain, London obtained some 35 per cent of the whole increase of population. Half a million people migrated into London. The Ministry of Labour found in 1937 that no more than 3.1 per cent of the workers whose unemployment books were originally issued in London and the South-east exchanged them in other parts of the country; on the other hand, 32.1 per cent of the books exchanged in London and the South-east originated elsewhere.

INDUSTRIAL AND PLANNING PROBLEMS

The chief problem of employment in London before the war was clearly not lack of work. There was no lack of variety of work, and there was plenty of work for women; there were forty-six insured women workers aged 16-64 in Greater London in 1938 for every hundred insured men, against thirty-seven in the country as a whole. The problem was very much more the conditions of work. It was partly a matter of the inadequacy of many of the factories and workshops of Central London; as the authors of the *County of London Plan* noted, 'much of London's industry is housed in premises which are hopelessly out of date'. This was the smallest part of the problem; even more important were the conditions of transport, housing, and social life which London workers have been unable to escape. Cash wages in London are high; but high cash wages, when accompanied by the disadvantages which in the past appear to have been inseparable from life in London, may indicate a net return to labour lower than might be attained under conditions of full efficiency just as much as the low cash wages of Lancashire or the West Riding.

The population of Greater London has been leaving the centre—the area now covered by the London County Council—for over sixty years. It is estimated that between 1881 and 1937 nearly 1,900,000 people left the L.C.C. area. Many of these, particularly between 1900 and 1914, left Greater London altogether; but the great majority must have gone, especially since the last war, into the part of Greater London outside the county boundary. There has been some corresponding movement of industry. Industry has been moving away from the centre since the beginning of the twentieth century, and in

the five years from 1934 to 1938 the number of factories employing twenty-five workers or more in the L.C.C. area fell by an average of about forty a year. But this movement of industry out of the centre appears to have been slower than the outward movement of population. In 1935 and 1936, years for which the Board of Trade supplied the Barlow Commission with statistics, the closing of factories in the County area resulted in a net loss of factory employment (after allowing for employment in factories opened in the same two years) of 2,000. A net fall in factory employment of 2,000 in two years is equivalent to an average annual reduction of less than $\frac{1}{4}$ per cent in the number of workers in factories employing twenty-five or more in the L.C.C. area; this compares with an average annual fall of 1 per cent in the population of the same area between 1931 and 1938. Factory employment was not falling as fast as the population, and offices were, if anything, becoming more concentrated than before:

'As the workshop industries in the centre become replaced by factories on the outskirts, commercial and business houses and administrative offices increase and multiply at the centre and use even more intensively the space formerly used industrially.' (Barlow Report, par. 188.)

The comment is on the big cities in general; but it applies particularly to London.

The industry which did appear in Outer London, either as a new growth or through transference from the centre, was not evenly distributed. It was largely concentrated in a few restricted areas, particularly the river valleys (the Thames, Wandle, Ravensbourne, Darenth, Cray, Lea, and Roding), along the line of the Grand Union Canal, and along certain main roads. These concentrations did not in general coincide with the chief concentrations of population. The most striking discrepancy occurred in the areas south of the Thames. Eighteen per cent of the factories moved from Inner to Outer London between 1932 and 1938 were re-established in the South, South-east, or South-west, and 19 per cent of the net increase between 1934 and 1937 in the number of factories in Outer London occurred in the same areas; as against this, the parts of Kent and Surrey in Greater London contributed 34½ per cent of the increase in population in Outer London between 1931 and 1938. There are wide areas all round Greater London—Kent between the Darenth and the Ravensbourne, most of Surrey in London, the southern part of Middlesex, the part of Middlesex between the Lea Valley and Hendon, and a number of smaller areas—in which industry is either entirely absent or very small in relation to the local population.

The most obvious effect of the divergence between the location of industry and population in Greater London before the war was an

astonishing amount of travelling, accompanied by acute traffic congestion in Central London and by uneconomic loading of transport services. Even in 1921, before the building boom which followed the last war was into its stride, there were 850,000 people working in Central London¹ and living in other parts of the County of London or in the neighbouring counties, and 50 per cent of these lived more than five miles from Charing Cross. There was a good deal of travelling even within Central London, where many of the chief industries and services are highly localized—office work in the City and West End, clothing in Stepney, Hackney, Finsbury, Marylebone, Westminster, and some of the adjoining boroughs, furniture in Shoreditch, Hackney, Bethnal Green, Finsbury, Islington, and St. Pancras, the food industries in Stepney, Bermondsey, Southwark, Hammersmith, and one or two other areas, and so on. The growth of population in Outer London after 1921 added greatly to the volume of travel. By 1937 the average annual number of journeys per head of the population of the London Passenger Transport Board's area had risen to 441. This is not much more than the 408 journeys per head of the population of Birmingham in 1938-9;² but the journeys were longer. The L.P.T.B. estimated the average annual cost of transport for a London family in 1937 at about £15; the corresponding figure for Birmingham would be about £9. Even Birmingham's figure was excessive, and the expenditure of London families, measured either in money or in lost time and discomfort, was well beyond any tolerable limit. The workmen of Charles Booth's time, who 'travelled but little, being generally employed on the spot, and their families travelled even less' (*New Survey of London Life and Labour*, I, 191), were rapidly disappearing even in 1929; by 1939, though by no means extinct, they can scarcely have been more than a small minority.³

The disadvantages which accompanied the growing division between homes and places of work are too well known to need further discussion, except for two which are particularly relevant to the problem of controlling industrial development. One of these is the tendency for Outer London to divide itself up into large areas with a predominantly upper middle-class, middle-class, or working-class character. Apart from its other results, this segregation of classes has an undesirable effect on the planning of the location of industry. Under the existing machinery of planning the control of industrial location in London is divided (outside the L.C.C. area) between the boroughs and districts, and the attitude of many of the districts

¹ Cities of London and Westminster and Metropolitan Boroughs of Holborn, Marylebone, Finsbury, and Southwark.

² On Corporation transport only; railway journeys and journeys on Midland Red buses should strictly be added in. Return journeys are counted as two.

³ An analysis of the proportion of workers in each section of the City and County of London who worked in their own district or left it to work, based on

with predominantly middle-class or upper middle-class populations to any form of industrial or commercial development is a serious obstacle to improvements in location—something has been said on this point in an earlier chapter, and more will be said below.

The separation of homes and work-places has also created difficulties over juvenile employment. The London Regional Advisory Council for Juvenile Employment pointed out in its report for 1936 that in the County of London there were, on the average, two unfilled vacancies for every unemployed boy or girl, and that in the areas of the Central London exchanges there were nine and a half vacancies for each unemployed boy and over thirty-three for each unemployed girl. In Outer London there were more boys and girls unemployed than unfilled vacancies.¹ The boys and girls from Outer London could not be brought in to fill the vacancies in the centre because of high transport costs—fares into Central London would absorb a very high proportion of a boy's or girl's wage—and of the exceptional strain on boys and girls of travelling long distances at rush hours. There was a shortage of young workers in London as a whole, so that there was no extensive unemployment as a result of the bad distribution of the supply of workers in relation to the demand; but there was an unnecessarily severe shortage of juvenile workers in the centre and a lack of variety, or in some cases an absolute shortage, of employment in the outskirts. There is some evidence of the existence of a similar problem in connexion with women workers—or potential workers—in some suburbs.

An important distinction was apparent before the war between the problem of the separation of homes and places of work as it affected office workers and factory workers. Office workers had on the whole higher incomes and shorter hours, and they came very largely from classes in which the family is very much a self-contained unit; they were less dependent on the life of a community such as is found in the older industrial areas of the big cities. Where these characteristics were absent, there still remained the social prestige and generally pleasanter conditions of office work. A typical example is a district in North Kent in which even during the war numbers of girls have preferred to earn 40s. to 50s. a week in London offices, paying fares and meeting the inconveniences of wartime travel, at a time when women's earnings on light munition work in the leading local factory were averaging between £3 and £5. These causes have combined to make office workers relatively willing to accept a separation of their homes and places of work. Down to the outbreak of war office work was more heavily concentrated in Central London than factory work, and the separation of homes and work-places was distinctly greater in the case of office workers than it was for workers

¹ Quoted from the Ministry of Labour's evidence to the Barlow Commission.

in factories, whose objection to long journeys to work was frequently much stronger. In a number of instances—the L.C.C. estates at Becontree and St. Helier were outstanding examples, and there were privately owned estates in a similar position—there were clear signs before the war that factory workers were feeling the strain of travelling. There were some areas round Outer London of which it could definitely be said that building outwards from the centre without regard to the division of homes and work-places had reached the limit of what factory workers would stand; this was certainly true of a large part of the districts of Surrey inside Greater London.

The proportion of industrial workers living more than a short distance from their work has in any case never been as large as the proportion of office workers, and as a result of developments in the last few years before the war it was in some instances diminishing. Industry has spread more freely than offices into Outer London, and, though there has been a tendency for industry and population to begin by settling in different areas, there has also been a tendency for industry to develop in areas where labour was available and for housing estates to spring up round new industrial centres. Planning authorities have in many cases encouraged this tendency, if not always as strongly as might have been desirable; an example is the action of the local authority at Harrow in modifying its planning scheme to allow the development of a light industrial area to provide for residents on some of the newer working-class estates in the district. The appearance of the Ford Motor Works at Dagenham after the creation of the Becontree Estate is another example of the general tendency; in the opposite sense, developments in the area round Hayes, Ealing, and Southall illustrate the tendency for people to move to areas where industry has grown up. This area began by providing far more employment than could be filled by the local labour supply. By 1939, as a result of the growth of new estates, the local supply of labour was roughly equal to the demand.

Too much should not be made of this difference between factory and office workers. The London Passenger Transport Board told the Barlow Commission that both technical and financial factors would make it exceedingly difficult for any workers in Central London to live more than twelve to fifteen miles from the centre. The financial difficulty might be overcome by some form of subsidy to the longer fares, and the technical difficulty by running special train services to towns closely grouped round railway stations; but there could in any case be no question of a general spread of the built-up area beyond a limit which, in several parts of London, it has already reached.¹ These considerations were clearly intended to apply to workers of all classes without distinction.

¹ Evidence of the L.P.T.B., twelfth day, p. 358 ff.

Nevertheless the distinction between the attitudes of factory and office workers is clear enough. In a sense, it implies that the problem of travelling to work as it affects office workers is less serious. Factory workers show a greater dislike for travelling long distances and a greater readiness to move to new areas in order to avoid travelling; it might, therefore, be said that the problem of correlating the movements of industry and of industrial workers is more urgent than the problem of office workers, who can after all put up with a good deal more of the cost and inconvenience of travel. In another sense, the problem of office workers is even more urgent. It could be argued that, if events were left to take their course, industry and industrial labour would arrive at some sort of an adjustment, and that if no adjustment were reached industrial workers could be relied on to exert enough political pressure to ensure that some remedy was found. In the case of office workers the tendency for the problem to right itself appears from pre-war experience to be much weaker. Offices before the war were not moving outwards, or growing up in Outer London, to anywhere near the same extent as factories, and the very fact that office workers were comparatively willing to accept the resulting separation of homes and places of work made the prospect of an end being made of the waste and inconvenience of travelling to and from offices in Central London appear exceedingly remote.

EFFECTS OF THE WAR—GENERAL

The war has in some ways affected Greater London more than any other large region. The severe air-raid damage and the evacuation of a large part of the population are common knowledge; in November 1940 the population of the County of London appears to have been over a million less than in 1938, and the authors of the *County of London Plan* note incidentally that in January 1942, when many of those who left London during the period of heavy air-raids had returned, at least 600,000 (possibly, from the form of the reference, many more) of the population of the L.C.C. area were still evacuated.¹ The effect of the war on employment in Greater London has been smaller. It is true that in London and the South-east as a whole both employment and the insured population fell noticeably in the first three years of war, distinctly more than in any other region. This relatively heavy fall was due only in part to a tendency for employment in particular trades to fall faster or to rise more slowly in the South-east than in the rest of the country. Another important contributory factor was the relatively large share of London and the South-east in a number of trades which have naturally contracted

¹ *County of London Plan*, p. 33. A high proportion of the evacuees at this date were, of course, children; but the figures also include a considerable number of transferred war-workers.

in wartime in all parts of the country alike, and the relatively small share of this region in expanding industries such as shipbuilding and many branches of engineering.

Contraction due to this cause is obviously unlikely to have much permanent effect. In any case, the fall in employment in London has been on a far smaller scale than the fall in population. The decline in the insured labour force through conscription and the transfer of workers to other areas has been largely made good by the increased employment of workers not previously insured, particularly women. There has been a great expansion of industries such as engineering, vehicle and aircraft manufacturing, and electrical cables and apparatus, and in 1942 total employment in the larger factories of Greater London was still at about the level of the years immediately before the war. Some factories had been moved to the provinces, including one or two of great importance; but these movements had been more or less balanced by the building of new works. Between September 1939 and June 1941 some 202 projects to build, extend, or reconstruct factories were recorded in Greater London; these figures do not include a number of Government works. It is of some interest to note that this figure represents almost the same proportion of all recorded projects as the pre-war population of Greater London represented of the population of Great Britain—17 per cent against 19 per cent.¹ For obvious reasons none of the giant munition works which have been built since the war has been sited in London, so that the average employment in new London factories may well be less than the average in factories in other parts of the country; the total employment given by the new factories is still considerable.

There has been very much more evacuation of offices than of factories, either from Inner London to Outer London or to the provinces. A substantial number of Government departments, large firms, and other concerns which are in a position either to move their whole work out of London or to divide their offices without excessive expense have moved their offices to the Home Counties, to counties such as Oxfordshire or Berkshire, to other parts of the country in which they already had establishments, or to areas such as Devon, North Wales, or the Lancashire coast. Smaller concerns seem in most cases to have preferred a move within Greater London.²

These changes have brought up a number of new short-term, or comparatively short-term, problems of dislocation and readjustment, some of which are illustrated below. They have also modified London's long-term problems and opened up new possibilities for their solution, but without altering them fundamentally. London's

¹ From the same source as Table 16, Chapter II.

² Chapter II. pp. 61. 69-70.

economic position in relation to the rest of the country is not unlikely, in the absence of a deliberate policy to the contrary, to be very much the same within a few years of the end of the war as it was before it. The great majority of migrants are likely to return to London if they can, and reasons were quoted in an earlier chapter for believing that it would be physically possible for them to find accommodation of some sort in or near their original districts. A number of the offices or sections of offices which have moved from London to the provinces may remain outside London, though in nearly all cases it seems probable that firms will wish to keep at least a nucleus staff in London. It is chiefly the larger firms, which can conveniently divide their offices, which are in any case likely to leave part of their work in the provinces; the smaller firms, if they have moved out of London at all, are more likely than not to come back. Some of the relatively small number of large and medium firms which have moved a large part of their manufacturing work to the provinces are likely to remain there—the motives in cases of this kind were discussed earlier. Smaller works seem likely in most cases to wish to return, unless special inducements are provided to persuade them to remain away. Against these losses of industry and offices must be offset the considerable amount of new development which has taken place in London. On a rough estimate, if no official effort were made either to encourage or to restrain the tendencies which have shown themselves since 1939, London after the war and the first year or two of readjustment might prove to have noticeably less than its former share of office work and slightly less than its former share of factory work; but there is no reason to suppose that the difference would be great enough to prevent the re-employment, at least after a preliminary period of dislocation, of at least as many workers as were employed before the war.

There is no definite sign that the war has made any great difference to the long-term prospects of the chief groups of London industries. The future of the Port of London is least easy to predict. The Port will presumably regain the part of its former trade which arose out of the needs of London and the South-east, though even in this case some ground may have been lost to the western ports. Whether London will again supply the rest of the country to the same extent as before the war probably depends largely on the future organization of imports and marketing. London's 30 per cent share before the war in retained imports of raw wool, intended for manufacture in the West Riding, or its 90 per cent share in retained imports of tea and coffee, were examples of types of trade which might well be at least partly directed to other ports if commercial organization were permanently changed. Whether or not this will happen is of course uncertain, and there is even more uncertainty over the future of

London's position as a centre of multilateral trading and finance. Whatever may happen to the volume of London's trade, it seems probable that there will—as in other ports—be some permanent reduction in the number of workers attached to the Port as a result of improvements in the organization of port labour which have occurred during the war and could be maintained afterwards. In London's manufacturing industries short-term difficulties are likely to arise over the demobilization of engineering and other munition trades, and possibly through dislocation caused by the rapid return to other occupations of temporary women munition workers; once these difficulties are overcome, the trend in manufacturing industries, so far as it can be forecast at all, seems likely to be very similar to the trend before the war. London's relative importance as a centre of administration and services may be slightly less than before; but this decline is likely to be more than offset by the long-term tendency of employment in work of this kind to increase over the country as a whole.

IMPACT OF THE WAR ON PARTICULAR DISTRICTS: LOCAL PROBLEMS

There is more possibility of permanence, even in the absence of a definite official effort to preserve wartime developments, in the case of the changes which the war has made in the circumstances of various districts inside Greater London. There has been a substantial fall during the war in factory employment in the County of London, and a corresponding increase in the western section of Outer London. Other increases have occurred in the north and south of Outer London, and have been even greater in proportion to the relatively small amount of industry which existed in these areas before the war. A large number of office workers formerly employed in Central London are now working elsewhere in Greater London. The effects of these shifts on particular districts have been very extensive. As it happens, the wartime changes have in many cases coincided with desirable trends which were already apparent before the war, and in several other instances they have opened up valuable new lines of development.

In Inner London the outstanding change is the relief of congestion in the City and neighbouring areas and in the East End. Perhaps the most striking industrial change in the East End has been the removal of very large numbers of clothing and furniture workers from some of the most crowded districts, and the transfer of a number of firms, particularly in clothing—the furniture industry is largely closed down under concentration—to districts in the North and East. This is a movement of much the same kind as was going on before the war, when furniture factories and large clothing factories

were tending to move eastwards down the Thames or north and north-east into the Lea Valley. A number of the worst premises in the older districts of Central London have disappeared; many of the smaller factories and workshops, unlike the larger factories, have proved as vulnerable to air attack as the houses which surrounded them. The relief of congestion in the City and neighbouring districts has been very largely due to the evacuation of offices, though by no means entirely; the closing of small businesses in areas such as Finsbury and Holborn has contributed a good deal, and a small contributory factor of some historic interest has been the stimulus given by the war to the pre-war tendency for wholesale distribution to move away from Central London.

In Outer London office work is now being done very largely in the dormitory areas from which office workers are chiefly drawn. All round London it is the areas such as Bromley, Harrow, or the older part of Ealing which have attracted offices and small workshops—well-to-do dormitory areas with numerous large houses vacant as a result of evacuation. New factory building has gone partly to increase the concentration of industry in the main industrial areas; but it has also in a number of cases contributed towards a better distribution of industry in Outer London. Both in Kent and Surrey and north of the Thames industry has developed rapidly in a number of areas where there was relatively little before the war, or has drawn in classes of worker who before the war would have avoided a factory like the plague, and would have preferred long journeys to work in an office, with its higher social status, to industrial work in their own neighbourhood. Undoubtedly many of these workers, as an official at Crayford put it, 'have gone into munitions much against their will'. It is less certain whether all of them would be equally unwilling to remain in industry, under suitable conditions, after the experience which they have had during the war; it is clear that an important contribution has been made towards breaking down the prejudice against industrial work which existed in many parts of Outer London before 1939. Probably the most important of the new developments, both from this point of view and for the wider purpose of providing work in areas where there was previously too little, are those which have occurred in the part of Surrey inside Greater London and the part of Middlesex which adjoins it across the Thames. In addition to new industrial developments, a large new civilian airport for London is to be established in this part of Middlesex.

These gains have been offset in some areas by the appearance of new problems or the intensification of problems which were already obvious before the war. In many cases the war has increased the separation of homes and places of work. There are undoubtedly

instances in which the opposite has happened. Typists in north-east Kent who used to travel to London have taken up local munition work; factory employment near some of the working-class areas to the south of Outer London or in the dormitory districts to the west has increased; and the evacuation of offices to dormitory areas, or outside Greater London altogether, may in some cases have enabled employees to live nearer their work. Even where the distance travelled is still the same, conditions may in some cases have become easier. An example is one town in Surrey which now has a net inflow of office workers every morning, and an outflow in the evening, a movement exactly opposite to the usual flow from a dormitory town; the balance of traffic has been improved and the convenience of passengers increased. But cases of this kind are exceptional. Travelling by both factory and office workers seems on the whole to have grown, partly as a result of the evacuation of a large part of the population while industry has largely remained where it was, and partly because of the stoppage of house-building, which has made it impossible to accommodate near their new workplaces workers in new factories or in evacuated offices. Factory workers from the East End who travel to new industrial areas in the West, or who have moved out towards Dagenham and come in daily to work, or workers from the South London riverside boroughs who have moved out towards Croydon, or office workers who during the war have come in from as far afield as Reading or Aylesbury—cases of this kind are repeated over and over again all round London.

The increased separation of homes and places of work has been partly met by various expedients—billeting, special transport, the division of houses into flats, and so on. The third of these expedients, which is reasonable enough when applied in a district of big houses which can be divided into fair-sized dwellings, has been applied in areas such as Harrow, Hayes, or Wembley even to small semi-detached houses of the kind usual on speculative estates; it is not unknown for these houses to be divided into four flats. No satisfactory solution to the problem of increased travelling and lack of housing has been found, or can be found until building can be resumed. The inconvenience continues, and is likely to prove a serious obstacle both to any measures which may be taken to prevent a rapid return of people evacuated or transferred from Central London and to the retention on their present sites of a number of decentralized factories and offices.

It is possible that there may be some dislocation and unemployment in certain districts in the period immediately after the war, and possibly even more persistent local unemployment. From this point of view four areas are of outstanding importance. In the case of the most important of all, the East End, the war has merely given

point to problems which were already apparent before. One arises out of the special importance and difficulty in this area of co-ordinating movements of industry and population. As the *County of London Plan* points out:

'In only a few cases would the removal of a factory (from the centre of London) result in immediate transfer of those working in it to the new area, unless it possessed a substantial number of key men and skilled workers who could be expected to move with the factory.' (*County of London Plan*, page 96.)

There is no question of the strength of the attachment of people in the East End to their own district, and it was already apparent before the war that, unless decentralization or dispersal of industry from this area were particularly carefully planned and co-ordinated with movements of population, there would be a danger either of unemployment or of a compulsion to make long journeys to the new sites of factories, accompanied in either case by serious and reasonable discontent.

A second pre-war problem in the East End arose out of the nature of a great deal of East End industry. One of the characteristics of London industry generally is its small scale, and this is particularly marked in the case of certain East End boroughs. The statistics quoted in the *County of London Plan* show that the average employment before the war in a London¹ factory was about 20, which is already little enough; this compares with an average employment of 31 in each establishment in the factory trades covered by the Census of Production of 1935. In a number of East End industries and districts the average employment in each factory was well below the figure for the whole of London. The average employment in a Bethnal Green furniture factory was about 6, and in a Shoreditch furniture factory about 10; the average for Stepney clothing factories was 11½. The average for all factories in Bethnal Green and Stepney, with a total factory employment of seventy or eighty thousand, was 13½.² There was a high rate of turnover among these small firms; the level of employment in industries such as clothing or furniture depended to a great extent on a continually changing sequence of small employers, who rose and fell according to their individual luck or skill. The successful continuance of this process, and the fact that the supply of new firms did not fail, was due largely to the environment—to the presence of trained labour and of ancillary industries and services. This dependence of the small firms on their environment added greatly to the difficulty of planning for the decentralization

¹ The reference is to the County of London.

² These figures are only approximately accurate. They can be used without fear of serious inaccuracy only for very broad comparisons.

of industry. It could not be easy to induce small firms to leave the environment to which they largely owed their existence; it was particularly noticeable before the war that in the clothing industry it was the larger firms which were moving away from the centre of London, while the smaller firms were relatively immobile. Even if firms could be persuaded to move, it was not easy to predict what would happen to them once they left their original environment.

A third pre-war problem of East London, including for this purpose East and West Ham, was unemployment in the Port area. Unemployment even in the boroughs most closely connected with the Port rarely reached the national level, and, as the *New Survey of London Life and Labour* said,¹ it was 'a feature of particular industries and the normal product of particular industrial methods,' not the result of persistent depression. Nevertheless it was great enough to deserve attention. Unemployment in Poplar averaged 15.2 per cent in typical months between 1933 and 1937, and unemployment in West Ham averaged 14.3 per cent. This was a level of unemployment lower than in the country as a whole; but, while unemployment in Greater London in these years was on the average about 7 per cent less than in Great Britain, unemployment in West Ham was only 2.2 per cent, and unemployment in Poplar only 1.3 per cent below the national average.

The war has not removed this last problem, though it may have changed its form; wartime improvements in organization may result in a permanent decrease in the number of workers attached to the dock and harbour services, with a consequent fall in casual unemployment and a rise—it can reasonably be hoped a temporary rise—in persistent unemployment. The effect of the war on the two previous problems has been to cause a risk of short-term dislocation, and at the same time to emphasize the possibilities of long-term disturbance. The very severe air-raid damage in the East End, the closing or removal of large numbers of factories and workshops, and the dispersal of workers in some of the chief peace-time industries, has temporarily broken up the environment on which the smaller firms depend. There is no reason to suppose that the environment will not re-form itself in due course, or that the industries which have experienced decline and dislocation will not recover. There is, however, a danger that if the people who for different reasons have left the East End during the war return as quickly as should probably be expected the temporary dislocation due to the disturbance of pre-war industries and the destruction of premises² may be great enough to cause a good deal of unemployment. Looking farther ahead, the war has

¹ Vol. I, p. 353.

² As well, of course, as shortage of raw materials and other general difficulties in re-starting industries in any part of the country which have contracted during the war.

emphasized the possibility of moving both the people and the industries of East London to other areas, but at the same time has illustrated the danger of inadequate synchronization. It might well be possible to induce a considerable number of the firms which have left East London to remain in their new areas. It seems probable that it will be exceedingly difficult for some time after the war to persuade many of the people who have left the East End not to go back to their own districts. A situation might arise exactly opposite to the one which has been experienced during the war; instead of workers having to travel in to factories which had not been evacuated they might have to travel outwards to factories which had not returned. The result would be inconvenience, not unemployment; it would be none the less undesirable.

A second area in which there may be difficulties is North Kent and Woolwich. After the last war there was a certain amount of depression in this area. At Crayford, where Vickers have a large works:

'The chief industrial difficulty . . . is that the demand for Vickers products naturally fluctuates violently with the political situation, and this firm is relatively so large that when production is slack in it the whole area is depressed. After the last war Vickers were in difficulties for years and the effect was considerable unemployment and distress. . . . The official interviewed was plainly concerned that there will be a repetition of these conditions at the end of the present war.'

- No official statement has been made about the future of Woolwich Arsenal after the war; but it is hardly unreasonable to expect that employment there will be very much smaller than before the war. The Arsenal provided a high proportion of the employment available in Woolwich before the war, and a permanent transfer of this work to other areas might create serious difficulties here.

Surrey is another area in which there may be some unemployment; there may also, in view of the great dependence of many local industries on women workers, be a certain amount of dislocation in the first months after the end of hostilities in Europe if the withdrawal from industry of women who prefer to return to their own homes or to other occupations is not carefully correlated with the release of other workers from the Forces or from munition work. The relatively rapid growth of industry in or near the dormitory districts of Surrey during the war has been due very largely to an expansion in engineering, and very often in types of engineering for which the demand in peace-time is likely to be limited. Surrey in Greater London has never had a great deal of industry as compared, say, with the parts of Essex in Greater London or with Middlesex, and even if there were a heavy fall in employment in Surrey the scale of the resulting

problem of unemployment would be small. But even a small amount of unemployment or dislocation in this district might do a great deal of harm. This is one of the parts of Outer London in which the separation of homes from places of work was most marked before the war. The industrial development which has taken place during the war has done something to remedy this, and it would be well worth while to try to retain the new factories—bringing in new firms if the firms at present using the factories are unable to carry on—and to use them as a nucleus for further development. There is a good deal of prejudice against industrial employment in the dormitory districts of Surrey, not without some local justification; conditions in some of the pre-war industries in this area were by no means good. There are several districts in which new industrial development would be desirable, but might not be willingly accepted unless it took place under exceptionally good conditions. The appearance of even temporary unemployment on any important scale would naturally add greatly to the difficulty of industrialization.

A fourth area which needs to be watched with some care is West Middlesex. There is a problem here of a kind which is also found just over the boundary of Greater London at Slough. As at Slough, there has been a big industrial expansion during the war. Some of this growth is likely in any case to survive the war; but a good deal of new employment in engineering, electrical apparatus, and related industries is likely to disappear, at least for the few years which will be needed before the long-term growth of industry which can be expected in this part of London offsets the decline of war industries, unless special measures are taken either to retain the new firms or to bring in others to use the new factories. There would not necessarily be unemployment as a result. The additional workers needed during the war have come from Central London and from other districts a considerable distance from the factories, and have had to accept either long journeys to work or extremely uncomfortable lodgings. Large numbers of them are anxious to go back to their original districts as soon as possible after the war, and any fall in employment would almost certainly be offset by a removal of workers from West Middlesex to other districts at a rate which would prevent serious unemployment from arising. There is no reason to suppose—subject to the caution which has already been given about the future of the East End—that the very great majority of the workers affected would not be able to find work in the districts to which they returned, at least after a short interval. The problem is not so much unemployment as the possibility that a valuable opportunity of encouraging the simultaneous decentralization of industry and population might be lost. The problems of West Middlesex and of some neighbouring areas may be complicated, as in Surrey, by

dislocation through the rapid withdrawal of women workers in the first months after the end of hostilities.

There is little doubt that all these changes together will result in a permanent alteration in the distribution of industry and population inside Greater London, even without any assistance from official policy. The fact that shifts in the location of industry inside Greater London have to a great extent followed pre-war trends is some evidence of their probable permanence, and for a number of districts the presumptive evidence can be supported with something more solid. In areas such as Hayes, Uxbridge, or (to go a little outside Greater London), Slough, informed observers believe that a good deal of the industrial development which has taken place during the war will survive afterwards, and all round London it can be shown that the majority of new factories, whatever is being made in them at the moment, are of a kind which should easily find a use in peacetime. London appears to have relatively few of the highly specialized new factories which are important in some other parts of the country. Reasons were given earlier for thinking that a significant proportion of the firms which have evacuated offices from Central London to other parts of the Greater London area would be willing after the war to keep their offices, or part of them, at some point within the Metropolitan telephone area, though outside Central London. There is good reason for believing, as the authors of the *County of London Plan* point out,¹ that the war will in any case prove to have contributed noticeably towards the decentralization of London's places of work; and the decentralization which it will have promoted would be very largely in the right directions. On the other hand, there is also the possibility of more or less prolonged dislocation in the East End, Woolwich, and North-east Kent, and of smaller disturbances of a similar character in some parts of London. On balance, it seems likely that, once the effects of air-raid damage were made good, London would prove to have gained from the changes due to war even if there were no deliberate attempt at extensive replanning.

THE NEED FOR AN INDUSTRIAL PLAN

At the time of writing (the spring of 1944) a new plan for Greater London is in fact already well under way, and there is no question of the need for it even from the narrow point of view of ensuring that the difficulties raised by the war are avoided and that full advantage is taken of new opportunities. Dislocation in the East End, though it could scarcely be prevented entirely, could be mitigated and prevented from persisting by measures to encourage the re-starting of industry and the co-ordination of movements of industry and population. Steps could be taken to ensure that the cramped and

almost haphazard siting of many East End factories is not repeated. Unemployment in the south-eastern part of Greater London or in Surrey could be dealt with by the policy of developing trading estates suggested in the *County of London Plan*. An interesting example of what might be done in North-east Kent is the old Vickers works at Erith, which was abandoned before the war, and was then divided into a number of sections, which were occupied by smaller firms making a wide variety of products—mining machinery, small conveyors, plasterboard, synthetic resin, wireless, batteries, and timber buildings. The problem of making the best use of the new industrial developments all round Greater London, of ensuring that the housing and social facilities which are needed to encourage workers in both factories and offices to remain away from Central London are provided quickly and in the right places, of providing, in some cases, new factory and office buildings, or special facilities for their erection—these, and a variety of other problems arising out of industrial and commercial development during the war, are all matters in which sound planning supported by vigorous action could be of great value. As was stressed in discussing the south-eastern counties, there is reason to think that an adequate plan backed up by appropriate building priorities might make it possible to solve the problem of reducing the congestion of population and industry in Central London, as defined by the authors of the *County of London Plan*, almost at a single blow.

The main lines which a long-term industrial plan for London should follow were becoming clear before the war, and have since been further clarified by the Barlow Report and the *County of London Plan*; short-term measures will also be required to deal with the immediate post-war dislocation. For the long run, it is necessary in the first place to prevent a further growth of population and deterioration of conditions in Greater London by checking the growth of the built-up area. The London County Council told the Barlow Commission that:

‘the urban development of Greater London already exceeds the aggregate which would have been desirable on general principles of town-planning and in the interests of the well-being of the population of London,’ (Minutes of Evidence, 14th day, page 421.)

and the Commission recommended that further industrial development in London and the Home Counties should be restricted under a licensing system. The London County Council’s evidence stressed the importance of applying control flexibly, and was particularly cautious in discussing the possibilities of decentralization or dispersal of industries from the East End;¹ reasonably enough, since the chief

¹ Evidence, paragraph 125, and paragraphs 3583–95.

East End industries can be better regarded as organisms, in which all the parts are linked with all the rest, than as collections of distinct units of which some can be taken and the others left. The London County Council stressed that it was essential to avoid any rigid interference with the natural process of rise and fall among the smaller firms. The Commission in its turn stressed the need for flexibility,¹ and appears to have had in mind a system of inducements supported by licensing on the lines applied before the war by the Home Office, the Board of Trade, and the Ministry of Labour in the case of foreigners wishing to settle in this country and to open factories. Under this system the Ministry of Labour interviewed the applicant in each case, went in detail into the possibility of siting the new factory in one of the Special Areas or the other older industrial districts, and explained the inducements available in the older areas. Permission to settle in or near London was not necessarily refused, but was granted only after clear and positive justification. Out of 93 cases decided down to the beginning of February 1938, some 30 had resulted in the siting of a firm in a Special Area, and 36 in siting in one of the other older industrial areas; but 27 factories, nearly 30 per cent of the total, had been allowed to settle in or near London.² Something on these lines seems also to have been in the minds of the authors of the *County of London Plan*, which stresses the need to proceed by a flexible machinery of prohibitions and inducements and to avoid arbitrary interference with existing industries.³

In addition to establishing an overriding control of further industrial development it is necessary to re-shape the existing industries of Greater London. The *County of London Plan* proposes the gradual removal from Central London of about half a million of the existing population, and a corresponding decentralization of industry, as well as extensive re-grouping inside Central London. Even if all the people who have left London during the war return, a rapid and permanent reduction of half a million in the population of Central London could probably be secured without a great increase over the pre-war rate of emigration, seeing that the population of the County of London fell by 311,000 between 1931 and 1937 alone; but there would have to be a considerable increase in the rate of decentralization of industry, and still more of offices. Very much greater rates of decentralization and dispersal of both industry and population have been proposed in public discussion of the *County of London Plan*, and there is also the possibility outlined in the previous chapter of solving a large part of this problem almost immediately after the war.

¹ *Report*, pp. 192-3.

² Evidence of the Ministry of Labour to the Barlow Commission, paragraphs 109-14.

³ *County of London Plan*, pp. 96-8.

Whatever rate may seem preferable, the measures required will fall broadly into four groups.

In the first place, measures would be needed to retain wartime industrial developments or evacuated offices in dormitory districts, and to direct offices or new industries both into dormitory districts and into areas where there is some danger of unemployment. The possibilities of industrial development in many dormitory areas are limited either by local prejudice against industry or by lack of sites; there are parts of Surrey or of North London where all the available sites were built up before the war. Even in these cases there should be openings for office development, and in some cases it might be desirable to make room for industry even at the cost of clearances. Some of the dormitory districts between the Lea Valley and Hendon are cases in point.

Secondly, it is necessary to fill out the gaps in existing schemes of development inside Greater London and to consider the formation of new small settlements, equipped with their own industry and offices, and providing for up to (say) 20,000 inhabitants, at various points inside, though usually near, the boundary of Outer London. These new settlements would serve three purposes. They would help to draw off population from Inner London and to provide it with work on the spot. They would serve as centres of industry and office work which might provide for workers in neighbouring dormitory areas who would otherwise have to travel into Central London. They might also in some cases facilitate the transference of population within Outer London; one case in point is the area round Hayes, where there has been during the war considerable congestion of both industry and population, and transference of some of the surplus to neighbouring areas would be highly desirable. This process of what the *County of London Plan* calls the 'infilling of gaps' and the creation of 'immediate close-in housing groups . . . gradually integrating into balanced communities' (it is known less respectfully in Survey reports as 'papering the cracks') is not spectacular; but it might be very effective, providing in the end better living and working conditions for some hundreds of thousands of people.

Thirdly, there is a case for transferring a good deal of the present population, industry, and offices of London to towns entirely outside Greater London. In some instances transfer might take the form of encouraging offices and factories dispersed during the war into the counties nearest to Greater London to remain on their new sites; or it might take the form of developing existing towns within easy reach of London. Almost certainly it would be necessary in addition to build new towns, either within easy reach of London or rather farther out—the farther towns might be linked both to London and to some local centre such as Reading or Oxford. Inquiries made both in and

outside London suggest that it should in addition be possible to persuade some of the firms which have removed during the war to the North or West of England, right away from the influence of London, not to come back; the same should be possible in the case of some of the Government departments which have moved to areas such as Lancashire or the North Wales coast.¹

Finally, it would be necessary to make considerable readjustments inside Central London itself. Some of these adjustments would be merely a matter of local re-grouping of factories and offices; the *County of London Plan* proposes extensive use of flatted factories and trading estates to ensure reasonable working conditions in central areas. There would also have to be more extensive rearrangements of industry and population among the London boroughs, similar to those which were taking place before the war; the tendency of retail distribution and offices to move westwards from Holborn and the City is an obvious example. One of the most striking proposals of the *County of London Plan* is for an increase of about 150,000 in the population of an area round Hyde Park and Regent's Park, very largely as a means of enabling West End workers who at present live in the East End and the suburbs to live nearer their work.

The measures needed to direct industry would presumably be similar to those used for controlling further industrial development in Greater London—a flexible licensing system supported by inducements. Experience both in London and elsewhere has shown that, while trading estates have undoubtedly helped to promote new industrial development and to divert development from one region to another, they have even greater potentialities as means of grouping and controlling development which is likely to occur in a particular region in any case; the outstanding example of the deliberate planning of an estate on these lines is the Liverpool Corporation's experiment at Speke. Among developments in London a good illustration of the possibilities is an estate at Elstree which was filling up rapidly before the war, and where three factories out of four were intended for firms leaving Central London. Trading estate development requires a considerable measure of public control, since speculative industrial estate development may (and in the case of London not infrequently does) depart considerably from proper planning considerations; where development is on a large scale, as at Slough, the concentration on a leasehold estate, offering no permanent sites for large firms, of a mass of somewhat unstable small concerns employing principally women and juveniles may cause serious social difficulties. Subject to this necessary measure of control, there is little doubt that the provision of trading estates in close proximity to areas from which workers can be drawn is likely to prove the most effective means of

¹ Chapter II, pp. 51-2, 61, 69-73.

re-shaping the pattern of London's industry.¹ There is less experience of decentralization in the case of offices than of factories; but discussions with firms which have moved out during the war show that the inducements which might be used to persuade firms either to move their offices out or to leave them in the areas to which they have been evacuated are not unlike those which might be used in the case of factories. The main requirements appear to be good buildings in suitable positions and satisfactory transport and telephone services to the centre of London; always, of course, provided that workers are available.

The measures needed to ensure that workers are available—that they do leave Central London, or that they remain out of it if they have left during the war—can be summed up shortly as the provision of housing, work, and community life. There are differences between different groups of workers and their families; factory workers seem on the whole less easy to move than office workers, and people from the older parts of Central London move less easily than those from suburban or middle-class areas where community life and local traditions are less well established. But in all cases alike, whatever the differences of emphasis, the fundamental needs are the same.

An important need from the point of view both of firms and of individual workers is a more flexible and better co-ordinated system of road and rail transport. Improvements in the transport system would be valuable as means of mitigating the travelling to and from work which is bound to continue in London, and they would be essential to the well-being even of new towns in which the demand for work and the supply of it were brought into a reasonable balance. People who move out to the new towns will keep ties with the areas they have left—family relationships, local associations, or whatever it may be. Many of them, particularly in the early stages of decentralization, will probably go on working in the areas from which they come, and many others will go on living in the older areas and will work in decentralized factories. It is not particularly desirable, even in the long run, that all the workers of a community should work in local factories and offices; the prosperity of London has been largely due to the mobility of London workers between different industries and different firms in the main industries. For as far ahead

¹ The proposals of the Government's White Paper on *The Control of Land Use* (Cmd. 6537), published while this volume was in the press, suggest that the importance of another form of inducement which has been left in the background in the past may in future be considerably increased. Certain of these proposals may, if carried into effect by legislation, greatly reduce the financial advantage (or increase the financial disadvantage) of moving a firm from Inner to Outer London by reducing the price obtainable on disposing of an old site and buildings and increasing the immediate cash payment required where land is bought in the outskirts; some form of subsidy to moving costs may as a result become an essential part of any policy for controlling the location of London industry.

as can reasonably be reckoned Central London seems likely to have to draw workers from other districts; some of these workers will undoubtedly come from even the best balanced of the new towns. This is a question which is likely to be considered at length in the London Regional Plan at present under preparation; it received more attention in the *County of London Plan* than any other single problem.

THE REALIZATION OF A PLAN—ADMINISTRATIVE PROBLEMS

There are two main difficulties in the way of the realization of plans of this kind. The first, the lack of sufficiently strong planning powers and powers of control, has been discussed at too much length in the reports of the last few years to need further consideration here. The second is the inadequacy of the present planning and administrative machinery of Greater London. At the time of the Barlow Report there were no fewer than 133 authorities exercising planning powers in the area of the London Passenger Transport Board, and there was no effective co-ordination between them. There were a number of Advisory Committees; but, apart from certain cases in which the County Councils took an interest, these committees appear to have had little practical influence. A Greater London Regional Planning Committee with purely advisory powers was set up in 1927. It was reconstituted in 1933, in the hope that the smaller planning authorities might delegate executive powers to it under the Act of 1932; no powers were in fact delegated, the London County Council withdrew from it, and it came to an end in 1936.¹ At the time of writing there is still no planning authority with executive powers over the whole of London, though a comprehensive advisory plan is under preparation. Still less, of course, is there any adequate machinery for planning developments beyond the edge of Greater London.

It is clear from the plans made by Advisory Committees that some of the mistakes in the past planning of London would have occurred even if there had been effective regional planning authorities; the tendency of several committees and authorities to under-estimate the importance of road transport to London's industry and to over-estimate the importance of the railways is one example. But it is equally clear that many of the mistakes were due principally to the narrow vision and varying resources of the smaller planning authorities. Zoning for industry has tended to be scattered and determined principally by local considerations, without much regard to regional or national needs. Few planning authorities appear to have been able to weigh up satisfactorily the issues involved in siting main, district, and local shopping centres; a system of shopping centres in

a city such as London normally covers a very much wider area than the small planning authorities of Outer London, and the zoning of shopping centres has been correspondingly inefficient. Possibly the outstanding example of the effects of the varying resources of local planning authorities has been the distribution of open spaces, so far as it has not depended on the County Councils. In many parts of Outer London the distribution of open spaces tends to vary in inverse proportion to the need, not because of any historical accident—the tendency applies as much to the areas built up since the passage of the Housing and Town Planning Act of 1909 as to those where building occurred before effective planning powers existed—but very largely because the price of land tends to vary in inverse proportion to the wealth of the authorities and their constituents.

It would be unfair to lay the blame for past failures in planning on the local authorities, which carried on to the best of their ability their proper and highly important function of looking after the interests of their own districts. As the Leader of the London County Council told the Barlow Commission, it was not their business to take a national or regional view:

‘I can take a London County Council view, but I cannot fully take a Greater London view, though the Advisory Committee will help in that direction.’ (Evidence of Mr. Herbert Morrison, 14th day, q. 3567.)

The fact remains that the multiplicity of small authorities very greatly increases the difficulty of obtaining agreement on the measures needed to execute any comprehensive plan, and in some cases is liable to result in definite obstruction. One instance which may prove particularly important immediately after the war is the attitude of many local planning authorities to the offices evacuated to their areas from Central London. Offices have gone, as has been pointed out, very largely to well-to-do residential areas where big houses have been vacant. The residents of these areas are themselves office workers, and most of the richer areas adjoin poorer districts from which office workers are also drawn. Whether or not the evacuated offices should remain in their present premises, there is a great deal to be said for keeping them at least in the same districts as part of a scheme for the decentralization of work at present done in Central London; but that is quite clearly not the view of most of the local planning authorities. The position in the older part of Ealing is representative of a number of other districts both north and south of the river:

‘The Council do not actually know how many evacuated firms there are in the district; but their attention is continually being called to one by the complaints of neighbouring residents, and an

appropriate clause is then inserted in the lease to safeguard Old Ealing's future as a residential district.¹

The difficulties arising out of the multiplicity of small local authorities occur in administration as much as in planning; in some ways even more than in planning, since for some services the number of authorities is even greater. To some extent the difficulty of obtaining agreement among local authorities has been met by authorities acting outside their own areas; but the results have scarcely been satisfactory. To quote Dr. Robson again, on the London County Council's housing programmes in Outer London:

'The London County Council has become in effect a colonizing power, like ancient Rome; pouring out the treasure and labour of her citizens in order to make homes for them in foreign lands. It is highly unsatisfactory for the inhabitants of the administrative county to be asked to spend millions of pounds in this way to build up rateable value in the areas of outlying local authorities. These outlying local authorities are in their turn faced with immense administrative problems, since they are required to provide schools, hospitals, roads, and many other municipal services. . . . Conflict and friction easily arise in such circumstances between the London County Council and the other local authority concerned. . . . Even when it develops a housing estate within its own area, the County Council may have to fight on hundreds of details with the borough council which has control over that particular district. There is much greater disharmony where the estate lies outside the County boundaries, since the London County Council is regarded as an interloper and resented accordingly.' (Evidence to the Barlow Commission, 23rd day, p. 784.)

Unless the administration of London is drastically reformed there is a danger that these difficulties may be experienced in an acute form in connexion with housing and industrial development after the war, particularly since the London County Council is now contemplating developments even beyond the boundaries of Greater London.

There is one danger arising out of the sub-division of the administration of Greater London which deserves particular mention, since it is a case in which the danger has been increased by the war. In a comparison of housing statistics for the counties of England Dr. Marian Bowley has shown² that in the decade from 1921 to 1931, which began with a housing problem not unlike the problem which

¹ The quotation refers primarily to offices. It refers also to some small workshops in trades such as tailoring.

² *Local Authorities and Housing Subsidies since 1919*, Manchester Statistical Society, 25.3.42.

will arise after this war, the responsiveness of private enterprise to quantitative needs for housing (as apart from such needs as slum clearance) was very much greater than the responsiveness of local authorities—it will be remembered that this was a period in which local authorities were free to build for the general needs of the population, and not merely for the special needs to which they were largely restricted later. There was a tendency for local authorities to build at very similar rates in different counties irrespective of differences in the quantity of new housing required; the rate of building by private enterprise showed much greater variations, and much closer correlation with differences of quantitative need. Dr. Bowley investigated differences in the output of houses between wide areas. In the case of the distribution of housing within each county or district there is much less reason to suppose that private building was sited in closer relation to needs than building by local authorities; the biggest private developments in London occurred in the dormitory suburbs, and the separation of homes and work-places was greatly assisted by speculative building. Even in the case of smaller areas, however, it is possible to quote cases where private enterprise helped to correct maladjustments brought about by local authority building. In a substantial number of cases in London between 1920 and 1939 it was the local authorities—particularly the London County Council—which increased the separation of homes and work-places, while private enterprise helped to close the gap by meeting (at a price) the demand for houses near places of work.

The quality, pricing, and a number of other aspects of speculative development in London before the war were frequently unsatisfactory, and in many of these respects local authority housing was definitely superior; it was nevertheless true that in providing an element of responsiveness to quantitative needs which were not adequately met by local authorities private enterprise did a valuable service. Housing and other forms of development will presumably be very largely in the hands of local authorities in the years immediately after the war, as a result particularly of the rise in building costs, and the element of flexibility contributed by private enterprise will be absent. It is safe to assume that the more obvious mistakes of London local authorities before the war will not be repeated; at the same time, there is a considerable danger of inflexibility. If the smaller authorities are left to take a large part of the responsibility for housing without adequate guidance from above, they may well tend, as they did between 1921 and 1931, to build with an eye mainly to the qualitative needs of the people already established in their own districts, and without showing an adequate response to the quantitative needs resulting from wider movements or potential movements of population. Local authorities can scarcely be blamed

for looking first and foremost to the housing needs of people already established in their areas, any more than they can be blamed for failing to take a wide enough view in town and country planning; the point, as in the case of town and country planning, is that some superior authority is needed to take a wider view and to correct the natural and desirable parochialism of the smaller authorities.

The reform of the purely official side of London's planning machinery would still leave certain outstanding problems. In particular, it seems at least improbable that a purely or mainly official organization could find a satisfactory solution to the highly complicated problem of sorting out individual and corporate interests involved in the dispersal of industry and population from Central London. The essential factors here have already been emphasized in the case of the East End. The fact that it is the exception rather than the rule for two earning members of a London family to work in the same establishment,¹ that a single family may have working, shopping, educational, church, political, and other interests in a wide variety of districts radiating from its existing home, that the circumstances of individual firms vary very greatly, and that in many cases the existence and efficiency of small London firms depends, not merely on their contact with an environment providing certain facilities, but on contact with that part of the environment with which the employer in question happens to be familiar—all these elements combine to make the decentralization of industry and population extremely difficult to carry out without serious inconvenience and loss both to firms and to families. A rough solution might be attained by ensuring, through purely official machinery, a certain pressure on factories and offices to move out, and some rough correspondence in the reception areas between the employment, housing, and social facilities available in each case; individual firms and families could be left, as in the past, to make their own detailed adjustments as best they might. A generally satisfactory solution could, however, be attained only by taking full account of the circumstances and feelings of each individual family or concern. It is difficult to see how this could be done without making far greater use than in the past of unofficial assistance and initiative—by, in effect, placing the formulation and execution of plans of decentralization directly in the hands of the people immediately concerned, under official guidance and supervision. Advisory Councils—Development Councils—grouping the official and unofficial interests concerned with planning industrial location and development were formed on a district and regional basis in many parts of the country before the war, and fully proved their value. The Development Council movement was strongest in the relatively depressed areas to the North

¹ K. Liepmann, *The Journey to Work*, p. 189. 1944.

and West; but the London area was not entirely omitted. A Development Board was formed in 1938 to cover the Thames-side towns from the Pool of London to Southend and Gravesend, and during the war the movement has been carried further by the formation in this area and (originally) in the Medway towns of similarly constituted Full Employment Councils. It seems probable that a great extension of this type of semi-official informal grouping of interests on a regional, district, and ultimately a factory and street basis will be needed in order to ensure a smooth and reasonably convenient transition to a better distribution of London's industry and population.

It would be difficult to over-stress the importance for the solution of the problems which have been outlined of reform in London's machinery of government, from the point of view of planning and administration alike, or the urgency of the need for adequate machinery for co-ordinating developments in Greater London and in neighbouring areas. To quote the Barlow Commission's comment on planning in London:

'Indefinite continuance of the grave and growing difficulties involved in the existing situation can hardly be contemplated; and, unless there is a definite promise of satisfactory progress in the coherent and effective planning of the area being made at an early date . . . the Government should, in our opinion, give immediate consideration to the problem.' (Barlow Report, par. 370.)

The publication of the *County of London Plan* and the prospective publication of a Greater London Regional Plan represent a very definite measure of progress since the date of the Barlow Report; but the method of executing a plan covering the whole of London and extending also to neighbouring areas still remains to be settled.

Note on the Greater London Plan. The Plan was published in December 1944, while this volume was in the press. Its recommendations of the Report follow broadly the lines suggested here. The essential recommendation is the decentralization or dispersal from the heavily built-up area of London, including those parts of it outside the L.C.C. area, of slightly over a million people and about one-third of all existing manufacturing industry, together with a considerable (though undefined) amount of office work.

CHAPTER XVI

CONCLUSIONS

ASSUMPTIONS OF THE SURVEY

IN drawing together some of the conclusions which have emerged from the Nuffield Survey it is worth while to re-emphasize the assumptions on which the present report has been based.¹ The aim has been to show the problems likely to arise in connexion with the location of industry if industrial conditions are similar to those prevailing in the 'thirties, apart only from those changes which have already occurred and are likely to persist, or which are reasonably certain to occur in the near future. The 'thirties were a period of general depression, and it is not in any way intended to suggest that the conditions which prevailed then need be allowed to recur. It is evident from the discussions on reconstruction which have taken place during the five years of war that, if a serious effort is made to meet the unsatisfied demands on industry, the service trades, and the professions which these discussions have indicated, the need even in the long run is likely to be more for schemes of priorities than for efforts to relieve unemployment; in the short run the danger of persistent unemployment is in any case small in all but a few areas. The aim of the Survey has been to provide some solid ground from which further plans can start, and accordingly speculation on policy has so far as possible been avoided; it has seemed preferable to rely as much as possible on past and current experience, even at the expense of an appearance of what it may be hoped is undue pessimism.

THE NEED FOR COMPREHENSIVE PLANNING MACHINERY

The most general impression left by the regional surveys is of the need for careful planning of the economic development of prosperous as well as potentially depressed districts. The need arises as much from the rapid development of the prosperous regions as from the danger of depression in other parts of the country, and even the prosperous regions have their own potential black spots. London and the South-east have the problem of the naval base at Portsmouth, the serious lack of balance and threat of cyclical depressions resulting from the growth of the motor industry at Oxford, and the threat of dislocation and possibly of persistent unemployment in some parts of London—especially of dislocation in the East End—as well as the very extensive problems of economic and physical planning arising

from the outward spread of London and the growth of population and industry in the Home Counties; the list is not complete. A number of the more prosperous areas in the South-east may be faced with problems of the kind illustrated by the Hertfordshire Survey's comment on the need to ensure in the national interest that local firms play an adequate part in post-war export drives. The South-west has a variety of problems at Bristol, in the Forest of Dean, in Cornwall, or in certain rapidly developing districts of Devon and Gloucestershire.

The West Midlands include several areas where persistent unemployment is possible; the lack of industrial balance and threat of severe cyclical depression is more serious at Coventry than at Oxford, while Birmingham has the same problem as London of avoiding dislocation in the highly complicated and interlocked structure of the small-scale industries on which it largely depends. The East Midlands have a variety of industrial problems, particularly in Nottinghamshire, Derbyshire, and the engineering centres of Lincolnshire. Throughout the whole of the Midlands and the South there are problems arising out of the decline of agriculture which, in view of the exclusion of agriculture from the Nuffield Survey's field, it has not been possible to examine in any detail. The problems of areas such as Herefordshire, Shropshire, or the parts of Oxfordshire and Buckinghamshire farthest from London have not in the past usually expressed themselves in high rates of unemployment; but the seriousness of these problems has been sufficiently indicated by low earnings, poor living conditions, and the gradual drift of the population to other parts of the country. The urgency of the marginal problems—those which come up for immediate consideration—in the different regions naturally varies, and there must be some form of priority in dealing with them. But there are few areas without problems calling for immediate or almost immediate action; the priorities needed are a matter much more of weighting and stress than of time.

The need is not only for planning in all parts of the country; it is also for comprehensive planning designed to deal as a whole with the problems of each region or of the country generally. One of the main difficulties of the Survey has been to answer from the available material a number of essential questions on future industrial development which involve the interests of prospective prosperous and depressed areas alike. How far, for example, is it possible to reconcile the desire of towns such as Stoke or Dundee to retain new light engineering industries with the claims of established centres such as Birmingham or London? Is the scope for development on trading estate lines actually as great as the frequent proposals for trading-estate development in areas of all types would suggest? How many

of the half-dozen or so proposals for civil flying-bases for transatlantic or Empire traffic made in the Survey's reports can be carried out? Is the prospective demand for building materials, or for domestic appliances, actually great enough to absorb the increases in supply proposed from a number of areas; or, alternatively, are there likely to be deficiencies in certain directions? How can the development of the tourist industry, or of a spa such as Malvern, be organized so as to bring most advantage both to holiday-makers from the industrial districts and to the holiday areas? To these and other similar questions it has often been impossible to provide even a rough working answer; the regional chapters of the present report have been written essentially from a local point of view, with only a limited possibility of correction by reference to national factors.

It is clear that before any satisfactory policy for dealing with local economic problems can be developed it must be the duty of some national authority to take on the one hand an estimate of the probable rate and direction of development in each industry, and on the other an estimate of the probable condition and needs of each region, and to compare the two and extract from them, in the light of all the relevant considerations—the probable general level of economic activity, the machinery available for controlling the location of industry, and so on—a scheme for the guidance of those directly concerned with solving local problems. The scheme need not be rigid; if the machinery for controlling the location of industry were on the lines suggested below, rigidity would be neither desirable nor possible. But some sort of loose-fitting scheme of mutually consistent directives is clearly necessary to avoid a conflict of claims, with resulting irritation and disappointment, or failure to make the best use of available resources.

The importance of establishing within the national framework a similar scheme of development for each region, including prosperous as well as depressed districts, is illustrated by several of the regional surveys. A plan is needed to cover the whole area affected by the movement of population from the rest of the country towards London, and from the centre of London outwards. The West Midlands need a plan to cover the whole inter-connected industrial area of Coventry, the Black Country, and the adjacent coalfields, and some form of machinery to bring the solution of the problems of Herefordshire, Shropshire, and the southern part of Worcestershire into relation with the development of the main industrial area. The East Midlands and the West Riding need a common plan to control the eastward movement of coal mining and to secure the best use of wartime industrial developments to the east of the main industrial area on the borders of the West Riding and Nottinghamshire.

illustration of the importance of securing satisfactory planning regions is perhaps the history of the Special Areas. It is difficult, in the light of experience, to justify the exclusion of Cardiff and Barry from the South Wales Special Area or of Glasgow from the Scottish area, or the strict limitation of the area defined in West Cumberland; whatever the differences of prosperity, it is clear that Cardiff or Glasgow formed part of the same economic unit as the neighbouring depressed area, and that for purposes of economic planning the economic unit should in each case have been treated as a whole.

The regional surveys also emphasize the importance of securing adequate co-ordination between economic and other forms of planning. In several of the former depressed areas—West Scotland, Lancashire, South Wales, and West Cumberland are examples—and in a number of other districts the surveys stress the need to improve housing and the general appearance and social amenities of the older industrial districts if they are to prove attractive to new industries. It is possible to quote many specific examples of potential new developments which have been lost to the older districts because of the discouraging impression made by derelict or neglected industrial areas, or of the unpleasant living conditions with which owners, officials, and key workers imported from other districts would have been faced. This is largely a matter for local or regional action; but co-ordination at the national level is also required. The schemes for trunk roads and bridges which are important for the future development of Wales or Scotland raise national issues; or, again, the delimitation of national parks, which must have a considerable effect on the direction of development in the tourist industry, has to be considered in the light of information on land use and requirements in the country as a whole.

THE STATISTICAL BACKGROUND

Comprehensive planning must of course rest on a background of comprehensive and reasonably comparable statistical information. In this respect the Nuffield Survey's experience merely adds emphasis to the already well-known deficiencies of British official statistics. The three main sources, from the point of view of the Survey, are the information on population and occupations recorded by the Registrar-General in the Census of Population and the Annual Statistical Review, information on production from the quinquennial Census of Production, taken by the Board of Trade, and information on employment collected by the Ministry of Labour. Though the scope of these statistics might be improved, they do as a whole supply the most essential information; not, however, in the most useful form, more particularly where published statistics are con-

Registrar-General classify their information in a way which, allowing for differences arising out of the nature of their material, makes comparison unnecessarily difficult. Before the war they each provided information for a different set of regions, and detailed information is not always available to enable the discrepancies to be adjusted; in this direction there has been some improvement during the war. The published information available even before the war for smaller districts was usually confined to that supplied by the Registrar-General, and, while much of the information on population is kept up to date, the industrial and occupational information available through the Registrar-General is provided only for Census years, of which the last was 1931. It cannot be supplemented from the Census of Production, which is taken on conditions which would make the publication of detailed local figures a breach of confidence; and, if an effort is made to supplement it with unpublished information from the local offices of the Ministry of Labour, it frequently appears that differences in the areas covered, as well as in the classification used, make any exact comparison impossible. So far as the present volume is concerned, it has been possible in one way or another—thanks in particular to the fortunate accident of the Barlow Commission, which collected a mass of invaluable pre-war information, notably from the Ministry of Labour—largely to overcome these difficulties, and the added difficulties of obtaining information in wartime. For any detailed planning, as apart from the broad impression which is attempted here, a far more exact statistical basis would be required. A reasonable objective might perhaps be the publication of an annual national handbook (or a series of regional handbooks) of planning statistics, giving as a minimum the essential population, occupational and employment figures on a comparable basis for each district or group of districts, together with similar figures for wider regions to which the Census of Production regions might be assimilated. The precise scope and contents of such a handbook would of course require careful consideration. There must in any case be a substantial revision of official statistics in connexion with the implementation of the White Papers on *Social Insurance*¹ and *Employment Policy*;² it may at least be hoped that one result will be an improvement in the directions indicated here.

THE EMPLOYMENT OF WOMEN

A further general impression left by the Survey is of the need for more investigation of the prospects for the industrial employment of women after the war. The regional surveys emphasize the great difference between regions in the opportunities of paid work open to women; the proportion of insured women workers to each hundred

insured men varied before the war from over seventy at Dundee to figures as low as eight or nine in some of the coalfields and areas of heavy industry. The number of women employed has risen very sharply since 1939 in the areas where openings before the war were fewest, and a substantial part of the increase may well become permanent, to the great advantage both of the women themselves and of their districts. On the other hand, there are some districts where the supply of work for women before the war was more adequate, and where the increased employment of women during the war may, under unfavourable circumstances, result merely in aggravating post-war unemployment. There are a number of others in which the industrial employment of women—particularly married women—had probably from a social point of view been carried too far even before the war. Married women who in other districts would have preferred to look after their own homes were drawn into industry under economic pressure, and in the course of generations the practice of married women working came to be accepted in these districts and the social loss involved was forgotten. It would have been of considerable interest to investigate the probable long-term effects on both the social and economic structure of towns such as Dundee, Stoke, Leicester, or the Lancashire cotton centres of some of the recent developments which may affect the employment of both married and unmarried women in industry—the probable rise in men's wages in a number of districts as a result of the introduction of new industries, the introduction of family allowances on a subsistence basis, or on more generous lines under schemes for particular industries, or the efforts made during the war to establish standard wages and conditions for domestic servants and to improve their social status.¹ In certain cases the problems arising seem likely to solve themselves; in Dundee, for example, the reorganization of the jute industry should involve a substantial increase both in the proportion of men employed and in men's wages. In other cases it is difficult to foresee what will happen. This is a matter of considerable importance for future policies for controlling the location of industry, and further investigation is desirable.

PROBABLE EXTENT AND LOCATION OF PERSISTENT EXCESS UNEMPLOYMENT

On the main question with which the present volume is concerned, the problem of depressed areas, it has been possible to reach fairly definite conclusions. It is clearly not possible to estimate with any accuracy the actual number of workers likely to be affected by persistent excess unemployment after the war. The difficulty of

defining persistent excess unemployment is great enough at any time, and in view of the uncertainty of economic conditions after the war no numerical estimate could have any value. At the same time, the survey of conditions in the main industrial areas made in the preceding chapters shows that a rough qualitative estimate is possible—always, of course, on the Survey's assumption that general economic conditions after the first rush of reconstruction will be not unlike those prevailing before 1939. In the absence of more far-reaching measures to control the location of industry and to maintain and stabilize employment in existing industries than have been announced at the moment of writing, it appears that there is likely to be persistent excess unemployment on very much the same scale as before the war. Wales, the Clyde area, Dundee, the North-east Coast, most of Lancashire, parts of the West Riding, West Cumberland, and the Potteries are all areas which were depressed before the war, and where (on the Survey's assumptions) there is more or less danger of depression in future; a number of other less populous or less seriously affected districts might be added. There are also one or two new additions to the list of potentially depressed areas—or, as it might be put on different assumptions, of areas in which the resources available for new developments are likely to be particularly large.

The incidence of unemployment on the former depressed areas is unlikely to be the same as before the war. In several cases substantial progress towards permanent recovery has been made during the war or in the years immediately before it, though there is no former depressed area of which it can definitely be said that the danger of severe depression is past. Cumberland and the Eastern section of the South Wales industrial area are examples of districts which should be better off than before the war even in the absence of new measures to assist them. There are other cases where conditions may be as bad as before the war, or worse; Dundee, the North-east Coast, and the coastal district round Swansea, Llanelly, and Port Talbot are examples.

LOCALIZED UNEMPLOYMENT: PROSPECTS OF A SOLUTION IN THE
INDUSTRIAL CONDITIONS ASSUMED BY THE SURVEY:
CONTROL OF THE LOCATION OF INDUSTRY

(a) *The Trend of Industrial Development.* There is little reason to suppose that under the conditions which have been assumed persistent unemployment would disappear—or, at any rate, would disappear without intolerable delay—in the course of undirected industrial development. It has been shown (Chapter II) that there are several prospective changes in the trend of particular industries which should help to increase employment in depressed areas, or at

least to prevent a further decline; the expansion of the building industry and the probable stabilization of coal output are the most important. On the other hand, there are prospective developments which are likely to work very much to the disadvantage of potentially depressed areas; the further decline of the cotton and jute industries or the impact on the tinplate industry of the new plant at Ebbw Vale are cases in point. On balance, the general trend of industrial development seems likely to continue to favour the formerly prosperous areas in the Midlands and South and to work to the disadvantage of the North and West.

(b) *Migration*. There is little doubt that if depressed areas are allowed to reappear migration out of them will begin again on a large scale. Anxiety has been caused during the war in a number of former depressed areas as a result of the transfer of large numbers of workers to other parts of the country, and there is definite evidence that these workers are less willing to go back to their original districts than workers from (say) London or the evacuated areas of the South-east. As has been suggested in the regional surveys, towns such as Birmingham or Coventry may receive a substantial addition of population as a direct result of the war. After the war, there is no reason to suppose that migration will not proceed as rapidly as in the 'twenties and 'thirties if conditions are at all similar;¹ and this would undoubtedly help to relieve unemployment, as it did in the past. Mass migration is, however, clearly a last resort. A certain amount of movement about the country is desirable at any time; but mass emigration as it was experienced in the distressed areas before the war was a social disaster. For the migrants themselves it meant transfer from a familiar environment, frequently with a strong local or national tradition and a highly developed community life, to such lifeless and nondescript areas as the environs of Oxford. In some at least of the areas from which the migrants came emigration tended to produce a highly undesirable psychological attitude; an impression was created that these areas were being drained of their youth, and accordingly that their depression was tending to become incurable. As the figures quoted for South Wales show,² this belief was by no means always justified; at the end of fifteen or sixteen years of migration South Wales retained as high a proportion of young men and women as the country as a whole. Nevertheless, the attitude remained. There was also the notorious social waste involved in using at less than their full capacity such social facilities in the depressed areas as waterworks, roads, railways, or public buildings—not so much housing, since a high proportion of the housing in the older industrial areas was in any case fit only for demolition—while similar facilities had to be provided for migrants elsewhere.

Experience during and immediately before the war has shown that there is no essential reason for further mass migration over long distances on the pre-war model. There are areas which must be frankly recognized as derelict, and which the population would do well to leave; but they are comparatively small, and in terms of distance the movements involved need not be great. A movement from the mining valleys of South Wales to Treforest or Bridgend, or the concentration of scattered Durham colliery populations round Bishop Auckland and Darlington are examples of the type of movement required. The areas unsuitable for the development of modern industries are districts, not regions; the regional surveys have shown very few derelict areas which are not within daily travelling distance of districts suitable for industrial development. In nearly all cases it should be possible to arrange for a gradual transfer of populations to the new centres without making a clean break between the new towns and the old or between the families which have moved at any stage and those which have not. Each family could be left with a choice between moving to a new home or remaining in its old home and travelling to work, and the process of transfer could, if necessary, be spread over one or two generations.

(c) *New Industrial Development due to the War.* The stimulus which the war has given to the establishment of new industries—even if only for temporary purposes—and to the creation of new facilities has clearly been of the greatest value to former and potential depressed areas. New factories capable of being adapted for peace-time use have been built in existing industrial areas. A number of entirely new industrial areas have been opened up near districts which may become depressed, and, while many of these are unlikely to be of permanent value, except possibly for such manufacture of munitions as may continue in peace-time, several might appropriately become the centres of new industrial towns. The Royal Ordnance Factories near Chorley in Lancashire, at Bridgend in South Wales, and to the east of some of the potentially depressed areas in the West Riding are examples. New labour skills have been acquired; emphasis in reports from former depressed areas, particularly the areas of heavy industry, is laid again and again on the value of the training in engineering and other light industry acquired during the war. The gain does not lie only in the fact that former workers in industries such as jute or tinplate have acquired new experience; it is due at least as much to the training received by large numbers of men and women who previously had never worked in a modern factory industry, or of women who had never worked in industry at all. It may take months or even years to accustom former domestic workers or workers in an industry such as pottery to the methods of a highly

(especially women) with factory experience was a real obstacle to industrial development in many depressed areas before the war. The experience gained during the war represents, of course, only a temporary advance, which may be lost again if advantage is not taken of it before the effects of wartime training have time to fade. In addition to new labour skills, new ancillary services for industry have appeared as a result of the war in a number of potentially depressed areas. New training facilities have been developed in several areas, and in some cases (South Wales is an example) new ancillary firms of a type necessary for the development of modern light industry have been established.

Important as these wartime developments are, their effect must not be exaggerated. In so far as they are likely in any case to lead to a permanent increase in employment in potentially depressed areas, their effects have been allowed for in estimating the danger of depression in different parts of the country. Apart from this, wartime developments represent merely a potential gain, whose value depends on the general level of economic activity and the action taken to control the location of industry after the war.

(d) *The Machinery for Controlling the Location of Industry.* The possible methods of controlling industrial location can be divided, broadly, into two groups, requiring different techniques for their planning and control. On the one hand are methods which consist either in barring off certain areas or in offering firms something of value in return for choosing a particular location, in each case without interfering with the freedom of individual firms to decide whether or not to accept the inducement or to set up a plant in the areas left open. By the use of these methods the owners of firms can be left with full responsibility for the decision whether and where to set up their plants, and therefore for their success or failure; and, if only a limited number of areas are barred, control need not lead to a fall in the total amount of new enterprise. On the other hand, there are methods, such as drastic licensing or rationing of the supply of capital or capital goods, which may limit the freedom of the owners of industry to such an extent that a large share of the responsibility for the success of a new enterprise is transferred to the State or other controlling body; restrictions of this kind may also discourage new enterprise to such an extent that considerable additional investment by the State or other public bodies becomes necessary, over and above what would be undertaken in any case. A rather different distinction might be drawn between methods which, though they may in some cases interfere greatly with the discretion of an individual employer, do not leave the main body of employers in the industry concerned or in business generally with the feeling that their responsi-

is used, it is obviously impossible to draw a clear line between the milder and stronger methods of controlling location; but a broad distinction remains between those which do, and those which do not, involve a substantial curtailment of the initiative and responsibility of individual employers.

The machinery for planning and promoting changes in the location of industry before the war was designed on the assumption that the necessary changes could be achieved without a large-scale transfer of the responsibility for the conduct of individual firms to the State, or extensive financial participation by the State in private industry. It was accordingly informal, giving to the State only a responsibility for defining objectives and for providing a few limited measures of assistance; it relied very largely on the initiative of private and semi-official agencies and of local authorities, guided by public opinion, whose pressure was focused by the State's definition of objects. The system grew up during the 'thirties, and it was only in the last three years before the war that it was sufficiently well established for a fair judgment on it to be possible.

The general aim of the system—to restore prosperity in the depressed areas, and, with this in view, to discourage further concentration of industries in London and the South-east—was laid down in resolutions adopted by the House of Commons in March and November 1936.¹ The Ministry of Labour undertook a broad preliminary classification of areas in need of assistance, mainly on the basis of unemployment; the list as it stood at the date when the Barlow Commission was taking evidence has been included as an Appendix to Chapter I. Within the general classification the Minister of Labour was responsible for defining severely depressed areas in which the Treasury could assist the formation of companies to provide developed industrial sites and factories, while Parliament, after a series of special surveys, defined four acutely depressed Special Areas which required altogether exceptional help. Following the definition, the Government departments chiefly concerned undertook to help each area according to the urgency of its needs. The supply departments gave preference (other things being equal) to firms in depressed areas. New Government factories were sited largely in the depressed areas, for social reasons as well as on account of strategy or of the available supply of labour. The Ministry of Labour arranged to transfer workers out of the most acutely depressed areas; over a hundred thousand were transferred under official schemes between 1932 and 1937 alone. Use was made of the obligation for refugee business-men to obtain a licence before setting up a business in Great Britain; the Board of Trade, the Home Office, and the Ministry of Labour co-operated to direct as many of the refugees as possible into

the depressed areas. Various subsidies were provided. A number of official agencies were set up to serve special purposes in connexion with the control of the location of industry, particularly the Commissioners for the Special Areas, the Trading Estate Companies, and the Treasury Fund to finance new enterprise.

In addition to this official action, the pressure of public opinion, focused by the definition of Special Areas, resulted in a good deal of action by private or semi-official agencies. The Nuffield Trust was founded at the end of 1936 to provide share and loan capital for new enterprises in the Special Areas. A Special Areas Reconstruction Association was founded in the same year to provide loan capital for new small firms. Its funds were provided privately, though its administrative expenses were paid by the Government and part of its loans carried a Government guarantee. A number of other financial agencies were also set up for similar purposes. A number of firms settled in the depressed areas in response to the pressure of public opinion, without any special assistance and without special technical or commercial justification. In one or two cases—the case of the Richard Thomas works at Ebbw Vale is the best known—considerable losses were incurred in this way.¹ In addition to this action in the economic field, the focusing of public interest on the depressed areas resulted in a stream of assistance to the areas in the form of social service. In some instances social service developments produced results of economic importance; the establishment of a flourishing boot industry at Bryn Mawr through the action of the Society of Friends is perhaps the best example.

This action by national agencies was supplemented by the mobilization of local initiative in the depressed areas through the Development Councils which began to be constituted in the early years of the slump of the 'thirties. The Councils were designed to represent both the local authorities in each area and private interests—principally industrial interests, but including also in some cases University representatives and prominent local individuals. The result was a remarkably effective balance between public and private interests, and between the interests of particular localities and the industrial or other interests concerned primarily with each region as a whole. The Councils carried on propaganda, maintained contact with outside agencies (Governmental or private) likely to be of use to their areas, carried on research, provided information and arranged facilities for new industries settling in their areas or for existing industries which were developing, and in general performed all the functions in connexion with the rehabilitation of their areas for which

¹ The loss in this case took the form of higher capital costs of construction, due partly to the greater difficulty of building at Ebbw Vale and partly to the general rise in prices which occurred during the delay in changing over from the original plan to build in Llanneisien.

a representative local organization of this type might be expected to serve. Not the least valuable of their functions was to enable the depressed areas to feel that they were not wholly dependent on outside assistance, and that rehabilitation could come at least in part through their own local efforts.

All this machinery—the action of the central Government, action by private national agencies, and action by local bodies such as the Development Councils—was co-ordinated through a loose but effective system of joint committees, informal meetings, and interlocking membership of committees and governing bodies. Co-ordination was unsystematic, and there was no rigid framework of policy; the maximum scope was left for the initiative of individual agencies. It appears nevertheless that co-ordination was effective. Wherever an industrialist might come into contact with the system, the whole available battery of information services, propaganda, and inducements could be and was brought to bear on him in whatever way appeared most appropriate to his particular case. The high degree of flexibility shown in adapting the available means to meet the needs of particular firms and districts was perhaps the most impressive feature of the system, at least as it applied to the Special Areas, where the means of action were most varied and the machinery was most fully developed.

There were, of course, serious defects in the machinery for controlling the location of industry which existed before the war. The machinery for classifying areas according to their needs was not sufficiently developed or sufficiently flexible; the need for comprehensive planning on the lines just discussed was not fully recognized, and the machinery for it was not available. The whole scale of operations needed to be increased, and many of the measures actually applied might have been improved or strengthened; the regional surveys illustrate (for example) the fact that too little attention was paid to influencing the location of industries employing principally men, and that many transport improvements of fundamental importance to Wales, Scotland, and parts of the North of England still remained to be carried out at the beginning of the war. As the Barlow Commission suggested, something on the lines of the flexible licensing system used to keep refugee firms from concentrating in the South-east might with advantage have been applied to British firms as well. A variety of agencies which did in fact influence the location of industry, or which might have been used to influence it, were not brought into the field of co-ordination. There were even some departments of the central Government which did not co-operate fully; the Ministry of Health, in particular, discouraged efforts by local authorities to attract new industries by special inducements as much in the case of depressed districts as of any others.¹

¹ Evidence of the Ministry to the Barlow Commission.

The significance of these defects can easily be misunderstood. A good deal of pre-war criticism of the system for helping depressed areas was due to a failure to appreciate the way in which the system fitted together. It was pointed out, for example, that the amounts which the Commissioners for the Special Areas were allowed to contribute towards the rent, rates, and income tax payable by new firms within five years of settling in the Special Areas were too small to make an appreciable difference to most firms. It was not understood that, as the Commissioners told the Barlow Commission, the chief value of these subsidies was that they acted as a bait. Firms—especially large firms—which would not normally be interested in other facilities available in the Special Areas were attracted by the idea of a subsidy; once they had begun to make inquiries about subsidies they could frequently be interested in financially more important inducements as well.

‘The direct inducement of a monetary grant attracts the larger and wealthier concerns to whom loans are of little interest. It is noteworthy that practically all of the bigger concerns who have come to the Scottish Area were attracted in the first instance by the prospect of these contributions.’¹

Apart from misunderstandings of this kind, criticisms after 1936 were concerned mainly with the scale and scope of the system’s operation, or with details of its machinery which did not affect its general structure. If it was justifiable to assume that necessary changes in location could and should be brought about without any great increase in direct State intervention in industry, the structure of the machinery built up before the war was clearly on the right lines; it attained something like the right balance between the action of the State and local or private agencies and between informality and co-ordination, and the right degree of emphasis on the value of using and directing the pressure of public opinion. If the same assumption can be made after the war, the machinery established to control location should certainly be stronger and more fully developed than the pre-war model, but not fundamentally different.

There remains, however, the question whether the same assumption can be justified; on this the working of the pre-war machinery, as illustrated in the course of the regional surveys, casts a good deal of doubt. The measures taken before the war did result in a considerable increase in employment in the depressed areas.² Part of the gain was undoubtedly at the expense of other areas, not so much

¹ Barlow Commission: Further Memorandum of Evidence by the Commissioner for the Special Areas in Scotland.

² It is perhaps worth stressing that the increase in employment should not be measured solely by employment on the Government-sponsored trading estates, which was only a comparatively small part of the total.

because existing industries were induced to transfer to the Special Areas—transference of this kind appears to have been negligible—as because new firms or plants which went to the Special Areas would otherwise have been established elsewhere; this was certainly true of many refugee firms and of a number of the most important plants sited in the Special Areas by British firms. Rearmament also made a large contribution. There is little doubt, however, that the establishment in the depressed areas of trading estates and other special facilities resulted in a considerable net addition to the total amount of permanent new enterprise in the country as a whole; firms were founded or developed with the help of these facilities in a way which would not otherwise have been possible. The action taken to help the depressed areas also resulted in a change in the psychological atmosphere surrounding them. A phrase which occurs again and again in Survey reports is that the depressed areas have been 'put on the map' for the growing industries. It was shown in the last years before the war that new trades could develop rapidly and flourish in the depressed areas of heavy industry, and industrialists were becoming willing at least to consider the possibility of a site in districts which in the 'twenties or the early 'thirties they would have dismissed out of hand.¹ At the same time, the fact that even a little was being done to help the depressed areas, and that some visible results were being achieved, led to rising hopes of the future in the areas themselves.

Valuable as these results were, it cannot be said that they indicate a rate of progress, even in the relatively favourable circumstances of the later 'thirties, commensurate with the problems which will have to be dealt with by changes in the location of industry after the war. Broadly, the problems to be dealt with after the war will fall into four groups. In the first place, there will be the major maladjustments inherited from before the war and in some cases aggravated by it; in conditions similar to those of the 'thirties unemployment due to maladjustments of this kind would be measured in hundreds of thousands. Secondly, there is likely to be some need for adjustments arising out of the dislocation of the national and world economy during the war, but becoming apparent only when the war has been over for some years; adjustments of this kind continued after the last war well into the 'thirties. Thirdly, there is the continual process of adjustment to technical developments and changes in demand. Fourthly, there are the problems bound up with town and country planning, and in particular with the decentralization of industry in and from Greater London. Any estimate of the efficiency of machinery on pre-war lines in dealing with these problems

¹ When the Commissioner for the Special Areas in England and Wales circularized 5,800 firms in 1935, he found that only eight were prepared even to consider opening a branch in the Special Areas.

must inevitably be a matter of speculation. It may nevertheless be suggested that, allowing for the use which might be made of wartime developments, an improved and extended version of the pre-war machinery might be sufficient even in conditions similar to those of the 'thirties to deal with the third and fourth group of problems, and possibly with the second. It would almost certainly not be sufficient to deal with the major maladjustments, except over an intolerably long period.

THE TRADE CYCLE AND THE GENERAL LEVEL OF DEMAND

To argue that the major maladjustments could not be dealt with in this way—that is, without a substantial increase in direct State intervention in industry—in conditions similar to those of the 'thirties is not to say that they might not be dealt with in this way in other conditions. It is in fact difficult to over-emphasize the importance to potentially depressed areas and to the solution of their problems of the maintenance of what the official White Paper has called 'a high and stable level of demand'. There is little need to lay stress on the direct and obvious importance, both to the potentially depressed areas and to many which in good years should be reasonably prosperous, of preventing the reappearance of the trade cycle. The depression of the areas where persistent excess unemployment was heaviest before the war was in most cases aggravated by the fact that these were also areas in which cyclical depression was exceptionally severe. There are a number of prosperous areas, including some which did well even in the slump of the 'thirties—the motor towns of Coventry and Oxford are the best examples—which may be acutely depressed from time to time if cyclical slumps are allowed to recur. The direct benefit which each area is likely to derive from a policy designed to eliminate the trade cycle must of course vary according to the means employed; a policy based mainly on the stimulation of consumption in the home market and of the building trade would naturally be of less advantage to an area such as the Clyde or the North-east Coast than a policy based on the re-equipment of British industry, modernization of the merchant navy, and colonial development requiring large amounts of machinery and constructional engineering products. These differences require to be taken into account in framing policies for abolishing the trade cycle; but the possibility that some areas may benefit less than others from particular policies is relatively unimportant in comparison with the advantages which any effective policy for abolishing the trade cycle would bring to all alike.

It is clear from past experience in controlling the location of industry that, from the point of view of the areas in which persistent excess unemployment is most likely to occur, a policy for eliminating the trade cycle, coupled with measures to prevent any persistent (as

apart from cyclical) deficiency of demand, is as important indirectly as directly. The success of the limited attempts to obtain new industries for the Spécial Areas in the last years before the war was achieved at a time of general prosperity; the slump which began to develop in the last months of 1937 was checked by rearmament before the general level of unemployment had risen beyond the average for 1936. General prosperity simultaneously made it easier to stimulate new enterprise, as apart from diverting it from other areas, and made it possible to divert new enterprise without causing any noticeable reduction in the amount of new development in more prosperous districts. There was a definite shortage of labour at the peak of the boom of 1937 in some districts in the Midlands and near London, and a corresponding stimulus to look for sites for new plants elsewhere. It is not going too far to say that the creation of a fuller measure of general prosperity after the war represents the key to the whole problem of the location of industry; the aim should be, as it has been during the war, to turn the problem of potential depressed areas into a problem of finding areas with labour and plant to spare to satisfy an overflowing demand. As the Board of Trade pointed out to the Barlow Commission, in conditions of depression and keen competition such as prevailed in most years before the war any interference with free choice of location for a new industry might well seem to the employer unduly restrictive; in conditions of abounding demand the choice between one location and another would, within limits, be a matter of minor importance.

This is not merely a problem of calling forth a sufficient amount of new enterprise, of promoting the expansion of existing firms, or even (p. 472) of setting industrialists in the right frame of mind. One of the most valuable effects of the prosperity of the years round 1937 was to prevent any strong political objection by the more prosperous districts to the measures taken to help the depressed areas. Murmurs of dissatisfaction appeared in the Barlow Commission's evidence. Birmingham, Liverpool, and Manchester Corporations complained with varying degrees of emphasis of the help given to the Special Areas, and complaints were also heard from other districts, notably those on the edge of the Areas; there were even complaints from the older firms in the Areas themselves.¹ But these murmurings were comparatively faint. The districts to which most assistance was given were clearly defined, and the urgency of their needs was well understood by the general public; the assistance given was limited, and can have had little effect on any one district outside the Special Areas themselves. With the general level of economic activity comparatively high and rising, the more prosperous districts were scarcely in a position to complain strongly.

¹ Questions 2690. 6737 ff., 7021 ff., 6052 ff.

There is little doubt that under different conditions there would have been a great deal of objection. The local fear that measures to control the distribution of industry would deprive Birmingham of irreplaceable employment has been quoted in the course of the regional surveys, and a number of incidents during the war have illustrated the existence of a similar feeling in other areas. The incident which obtained most publicity was the reaction of the Borough of Luton to a threat that the hat industry might be removed to another part of the country as a wartime measure. As the Town Clerk is reported to have commented, 'They will tear the heart out of Luton if they take the trade away'; the reaction of the local authority and the private interests concerned was correspondingly vigorous.¹

It cannot be said that these fears are irrational, so long as the danger of a return to pre-war conditions remains. If the average level of business activity from one year to another is low, unemployment caused or aggravated in a relatively prosperous area by a wrong decision in location policy may take some time to disappear. The strong long-term upward tendency of employment in towns such as Birmingham or Luton has been their chief protection against past depressions; cyclical slumps have meant a check to the long-term advance and a stoppage of immigration, not a heavy absolute fall in employment or a great rise in unemployment. The measures taken to help the Special Areas did after all consist, at least in part, in diverting new enterprise from more prosperous areas; it is only reasonable that while the danger of a return to the conditions of the 'thirties continues local authorities and private interests in these areas should be apprehensive of the adoption of similar or stronger measures in future. As has been pointed out in the case of Birmingham, the problem is partly one of persuading public opinion that location policy will not interfere dangerously with the structure and environment of existing industries. It is even more one of convincing the public that an effective policy to eliminate the trade cycle and a steadily rising level of demand are to be expected.

EXPORTS

It remains true, as it was before the war, that the future prosperity of many of the areas where the danger of depression is greatest depends largely on the future of the export trade. South Wales is perhaps the outstanding example. All the three characteristic products of South Wales (anthracite, bituminous coal, and tinplates, terneplates, and blackplates) are sold largely overseas; the proportion of output exported in 1938 was 38 per cent for bituminous coal, 60 per cent for anthracite, and 64 per cent for tinplates and related

¹ *The Times*, 27.11.42, 2.12.42, 3.12.42.

products. The long-term trend of employment in South Wales evidently depends largely on the trend of exports, and even short-term fluctuations have in the past been determined much more by export fluctuations than by variations in the level of incomes and expenditure in the home market. The best example is anthracite mining; the lowest percentage of unemployment in the Welsh anthracite field was recorded¹ in the good export years 1932, 1933, 1937, and 1938, and unemployment was very much higher between 1934 and 1936, when home consumption was at its peak and exports were smaller. While South Wales is an outstanding example, there are a number of other potentially depressed areas which are little (if at all) less dependent on exports; the cotton district of Lancashire, the Clyde, the North-east Coast, and parts of the West Riding are instances which were familiar before the war.

It appears possible, or even probable, that exports in general will be larger than before the war. The Chancellor of the Exchequer stated in his Budget speech in April 1944 that, as a result of the loss of income from invisible exports due to the Great War and the present war, it was no longer possible to maintain the level of imports normal before the present war without an increase of visible exports, and that accordingly an increase in visible exports would have to be achieved:

'If we are to avoid a drastic curtailment in our volume of imports, such as might threaten our standard of life and gravely prejudice our prospects of active employment, it will be indispensable for us to increase our exports, and recapture some of the trade which we lost in the inter-war years. That will be a matter of life and death to us, for it is impossible for any country to live indefinitely beyond its international income.' (Hansard, House of Commons Debates, 25.4.44, col. 666.)

While this statement implies that every effort should and probably will be made to bring about an increase in exports of one kind or another, it does not necessarily follow that the increase achieved would be in those categories of exports which are most important to the potentially depressed areas. The report on the coal industry made in connexion with the Nuffield Survey by Dr. A. Beacham suggests that it is doubtful whether coal exports can be raised above the level of 1937; in the absence of an export drive of the type foreshadowed by the Chancellor of the Exchequer they might be decidedly smaller. The Cotton Board's estimates of future cotton exports have been quoted in the regional survey of Lancashire; they give no reason to expect an increase, or even the maintenance of the pre-war level. These and similar uncertainties with regard

¹ Chapter III, Table 25.

to particular commodities are paralleled by uncertainty with regard to particular markets; reference has been made at several points to uncertainty over the future of some of the Baltic markets in which British sales were exceptionally well maintained during the 'thirties. The pre-war tendency for textiles, coal, and the cruder forms of iron and steel to form a diminishing proportion of British exports may well continue, and there may be some redistribution of markets, with a corresponding change in the demand for exports from the different industrial areas of Britain; but it is obviously impossible to make any reliable estimate of the form which developments of this kind will take. This is perhaps the chief blind spot in any estimate of the prospects of the main industrial areas.

STABILIZATION OR TEMPORARY MAINTENANCE OF OLDER INDUSTRIES: THE ORGANIZATION OF INDUSTRY

The regional surveys suggest that in a number of cases it may be desirable to prevent local depression either by reorganizing particular industries or by temporarily maintaining employment in them. In some cases—shipbuilding is the chief example—the chief need is for stabilization, based on a long-term estimate of requirements, and measures to eliminate short-term fluctuations. In other cases—jute and tinplate are examples—far-reaching reorganization is required to put an industry on an economic basis. In a number of cases measures are needed to keep up employment in declining industries for some years, until new industries can be brought in to absorb workers displaced; parts of Lancashire, the Welsh tinplate districts, Dundee, the Clyde, and the North-east Coast are instances of areas where the amount of permanent new industrial development in recent years, together with what can reasonably be expected or promoted in the first years after the war, may not be enough to prevent severe unemployment if employment in the older trades is not temporarily sustained.

The question of the way in which stabilization, reorganization, or protection of individual industries is to be carried out raises a number of very wide issues. In certain cases all that may be required is the imposition of a temporary quota or tariff, or the diversion for the benefit of a particular area of expenditure on (say) schemes of colonial development which would be laid out in this country in any case, or State-financed stock-piling to tide over a temporary surplus of supply. Even here there is an obvious risk that measures originally intended to be temporary may be continued after they have served their original purpose; but this problem is relatively simple.

A more difficult problem is likely to arise in the case of industries such as shipbuilding or jute which will require reorganization carried

provided a number of examples of the difficulty of reconciling with the public interest schemes of reorganization carried out wholly or partly under the control of the industries immediately concerned. The history of the iron and steel and shipbuilding industries is perhaps the most illuminating; in each of these cases enough information has become available over a period of years to show that the charge that the policy pursued in these industries was not in the public interest was substantially justified. There are various possible ways in which the difficulties shown by pre-war experience might be overcome; the form of organization proposed for the cotton industry shortly before the war¹ is one, and a rather different approach is suggested by the proposals on industrial organization which emerged from a series of Nuffield College Conferences.² It would be inappropriate to discuss the merits of these and other policies here; but it is justifiable to emphasize the importance of finding a satisfactory solution.

This question of the organization of industry links up with the problems of maintaining a high and stable level of purchasing power and of controlling the location of new concerns. It has been pointed out that one of the main features of the machinery for controlling location which was developing before the war was the extent to which it threw the responsibility for planning and action on to unofficial or semi-official agencies. There is reason to think that a great deal more might be done on these lines than has yet been attempted. It is possible to quote a number of cases where industries or individual firms before the war showed their willingness to postpone their own immediate interests to clearly defined public needs. The attitude of a large part of the iron and steel industry to changes in location is an illustration:

'Firms may be reluctant to move to a new site simply because they are unwilling to bear the responsibility of aggravating unemployment in an existing centre of production. . . . Actually, the industry collectively responds to this feeling; probably all concerned are disposed to delay radical shifts of location until the State has grappled effectively with the Special Areas problem, (D. L. Burn, *Economic History of Steelmaking*, p. 510.)

The case of firms which moved to the Special Areas or other depressed areas out of a sense of responsibility or as a result of pressure from public opinion is similar. It is perhaps fair to say that a substantial part of the difficulty experienced before the war in reconciling with the public interest industrial planning by the interests chiefly concerned was due less to the malice of industrialists than to the failure

¹ Cotton Industry (Reorganization) Act, 1939.

² *Employment Policy and Organization of Industry after the War*, Oxford University Press, 1943.

of public authorities to indicate clearly what the public interest was—or rather, to the failure to produce a plan which reconciled conflicting interests. The conflict in the steel industry between the need for technical improvement and the need to prevent some of the older iron and steel centres from going the way of Jarrow or the derelict mining areas of South Wales is as good an example as any. A clear and generally acceptable indication of what the public required from each firm or industry would simultaneously focus public opinion on definite aims and provide a strong incentive for firms or industries to take the action for which the public regarded them as responsible.

Measures to prevent the reappearance of the trade cycle and to ensure a steadily rising level of demand would do much to reinforce a policy of this kind. The unwillingness of many industries to reorganize and the dislike of new developments which were a marked feature of the 'thirties aggravated the cyclical slump; but they were at least as much an effect of the slump as a cause. It is not suggested that the permanent establishment of a high level of demand or a clearer indication of the responsibilities of industry would remove all the disadvantages of planning by private interests, or would make careful supervision and participation in planning by public authorities unnecessary; but these two conditions would do a great deal to diminish the difficulty of reconciling public and private advantage.

THE NEED FOR IMMEDIATE ACTION

Many of the problems considered here have been long-term, in the sense either that they will mature over long periods or that they will have to be solved over several years or decades. Some reference has also been made to the purely short-term problems of re-converting or re-starting industry after the end of hostilities. Between these categories there is a third, of problems of long-term significance which can best be solved in the years—in some instances in the months—immediately after the war. The possibility of taking permanent advantage of the movement of population out of the big cities (especially London) is largely confined to this period. It is possible that appropriate priorities for building new residential districts and office or factory areas, either in new or old towns, might retain in the Home Counties enough of the people who have left London during the war to enable the population of Central London to be reduced to the level laid down in the *County of London Plan* almost at one blow; this opportunity will exist only for a matter of months. The possibility of securing re-location of industry either between or within regions (the possibility of re-housing a section of the pottery industry is one example) or of setting on foot a permanent improvement in the organization of an industry such as hosiery is also likely

to be greatest in the period immediately after the war. It has been emphasized that it is in the period when reconstruction demand is strong, and when firms are anxious to re-start normal production as quickly as possible, that there is likely to be least objection to negative control over the location of plants, and that, in the face of acute difficulty in obtaining labour, raw materials, and possibly even factory accommodation, many firms would be willing to accept a considerable measure of positive control over their policies in return for special concessions. The importance of taking rapid advantage of the factory experience and other temporary advantages gained in potentially depressed areas has also been stressed.

There is in addition the problem of the areas where there is a risk that persistent unemployment may appear soon after the war. Over most of the country there may be some temporary unemployment as a result of dislocation immediately after the war; but there is little danger of prolonged unemployment at least for two or three years, until the first rush of reconstruction demand has been met. This is true of potentially depressed areas such as the Clyde or the North-east Coast as well as of the more prosperous districts in the South. There are, however, some districts—South Wales may be one—in which all the available labour is unlikely to be employed even in the first period of reconstruction; it is essential that in these cases both temporary relief plans and long-term plans for industrial rehabilitation should be available for application immediately the war ends.

NOTE ON LATER DEVELOPMENTS

Since this chapter was written considerable progress has been made in the directions indicated. The White Paper on *Employment Policy* (Cmd. 6527) accepts in principle the Government's responsibility for comprehensive planning and for maintaining a high and stable level of employment, and a number of steps towards implementing the White Paper have been taken both centrally and regionally. A Committee of regional representatives of Government departments has been established in each Civil Defence Region, presided over by the Regional Controller of the Board of Trade, and including among others the Regional Officer of the Ministry of Town and Country Planning. The Committees are responsible for promoting a balanced distribution of industry, particularly in connection with the lease of Government factories for post-war use, and for watching the general economic development of their areas. The Distribution of Industry Bill, introduced in February 1945, provides for adding to and rounding off the pre-war Special Areas (largely meeting the point raised in the first paragraph of p. 454), for stronger means of assisting what are now known as Development Areas, for the notification of important proposals for new industrial development to the Board of Trade, for the restriction of industrial development in congested areas (dropped in Committee), and for the addition of new Development Areas or their removal from the list by a simple procedure. The Board of Trade has also established a central information service on factors affecting location. These measures represent a definite and important advance in the right direction. But they are in themselves open to serious criticism, and leave a number of gaps; in any case, they have still to be tested in practice. At the moment of writing (March 1945) a great deal of ground remains to be covered before the principles laid down in the preceding chapter can be said to be effectively in force.

INDEX

- Aberavon, 62
 Abercrombie, Sir Patrick, 374
 Aberdare, 105, 119
 Aberdeen, 3, 131, 132, 133 (Table 26), 134, 135, 136, 137, 165 (Summary), 166, 384
 Abingdon, 398
 Abrasives, manufacture of, 126
 Admiralty, 95, 135, 373, 410, 412, 413
 Aerodromes: new flying centres, 93-4, 164, 198, 373, 412, 415, 433; post-war use of, 56, 321
 Afan Valley, 96, 97
 Africa, 383
 Agricultural Marketing Acts, 382
 Agriculture, 10, 45, 68, 76, 78, 452; agricultural machinery, 187, 334, 379, 386; dairy products, 375, 378; Devon and Cornwall, 370, 375-7, 378, 380, 381, 382, 386-8; East Midlands, 288-91, 296, 298-300, 313, 314, 320, 321, 357; Humber Ports, 266, 280, 281; Lincoln, 286, 287; Scotland, 136, 143, 150; South-east Counties, 398-401, 408; Wales, 89, 90, 92, 94, 95, 105, 127; West Cumberland, 200; West Midlands, 333, 336, 337, 338, 357
 Aircraft industry, 7, 11, 86, 49, 57, 59; Birmingham, 351; Bristol, 360, 364, 366-9; Cumberland, 198; Derby, 318, 319; Herefordshire, 337; Lancashire, 224, 235, 237, 238; London, 420, 430, 433; Luton, 394; North-east Coast, 191; operation in small units, 71; Plymouth, 373; Portsmouth, 410, 412; post-war dislocation, 80; post-war use of factories, 73, 255, 329, 414; Reading, 396; Scotland, 145, 151, 159, 163; Southampton, 412, 413, 414, 415; Stoke, 329, 330; Wales, 91, 93, 94; West Riding, 253, 255
 Aire and Calder canal system, 280; navigation, 277
 Air-raid damage, blitz, 408; and evacuation, 40, 41, 43, 68; Bristol, 359, 367, 369; Cornwall, 386; Coventry, 65, 352; Devon, 378-9; dispersal due to, 51, 52, 61; effect on spending, 39; Exeter, 378; London, 64, 65, 429, 433, 436, 439; North-east coast, 181; Plymouth, 359, 374-5, 378; Portsmouth, 412, 416; re-development, 50, 60, 64, 65, 375; Scotland, 132, 159; Southampton, 65, 416; Sussex, 409; Wales, 92
 Aldridge, 346
 Allen, G. C., *Industrial Development of Birmingham and the Black Country* 341
 Alston, 193, 200, 201
 Aluminium, 48, 79; Banbury, Northern Aluminium Co., 398; Stoke, 324; Wales, 104-6, 126; West Midlands, 345
 Amalgamated Anthracite Collieries, Ltd., 117
 Ammanford, 119
 Amman Valley, 117, 119
 Andrews, P. W. S., 56, 57, 85
 Anglesey, 90, 93
 Angus, 8
 Anthracite: Wales, 96, 98, 105, 108, 115-9, 130; Welsh export, 468, 469
 Argyll, 151
 Armament production. *See* Munitions
 Ashbourne, 313
 Atherstone, 354
 Attaché-cases, 219; suit-cases, 225
 Austin works, 63
 Australia, 121
 Avonmouth, 359 (footnote), 364
 Aylesbury, 398, 434
 Ayr, 6, 8, 131, 151, 163, 164
 Ayrshire coalfields, 147, 151, 154, 158, 159
 Bacon, 270, 274-5, 279, 334, 375
 Bakewell, 313, 322
 Balfour Committee: on West Riding, 45; *Survey of Textile Industries*, 244
 Balkans, 293
 Baltic, 136, 147-8, 182, 188, 470
 Banbury, 70, 299, 398-9, 408
 Banff, 131
 Banffshire, 136
 Bank of England, 37, 61, 69, 103, 128
 Banks: North-east Coast, 174; remoteness of head offices, Devon, 376; wartime evacuation of staffs, 61, 69
 Barlaston, 327
 Barlow Commission: description of London's industries, 418, 420, 425; flexible licensing system for industry, 463; London planning problem, 450; pre-war industrial structure, 1-2; trend to the South-east, 84-5; use of Commission's evidence, 455, 461
 Barnardo's Homes, 416
 Barnsley, 256, 257, 259, 260
 Barrow, 207, 209, 210, 214, 239

- Barrow Haematite Steel Co., 209, 210
 Barry, 97, 100, 103, 105, 454
 Barwell, 300
 Bata Co. (British Bata Shoe Co.), 293, 304
 Batley, 244, 245
 Beacham, Dr. A., 81, 469
 Beckenham, 77
 Becontree, 428
 Bedfordshire, 389, 399, 422 (footnote)
 Bedworth, 354, 355
 Beeston, 309
 Berkshire, 61, 389, 395, 398-9, 402, 406, 408, 430
 Bermondsey, 64, 72
 Bessemer, 296
 Bethesda, 93
 Beveridge, Sir W., *New Survey of London Life and Labour*, 423, 424, 426, 436
 Bicycles, 45, 145, 237, 309, 318, 340, 341, 343, 345, 348, 367, 368, 394, 414
 Bideford, 375
 Billingham, 168, 171, 226
 Bilston, 339 (footnote), 341
 Birmingham, 50, 51, 339-53; complaints *re* Special Areas, 467; daily travelling, 61-3, 426; emigration after last war, 80; factories, 72, 73; immigration, now and post-war, 67, 357, 453; increase in insured population, 60, 305; long-term upward employment tendency, 468; metal working, 308, 332-3; planning, 358; post-war competition, 323, 355, 452; social amenities, 112
 Bishop Auckland, 190, 459
 Bishops Castle, 336
 Blackburn, 203, 207, 215, 218-20, 223, 224
 Black Country, 7, 60, 62, 308, 332-3, 339-53, 357, 453
 Blackpool, 207, 213, 214, 404, 409
 Blaenau Ffestiniog, 93
 Bletchley, 398, 399
 Board of Trade: *Annual Survey of Industrial Development*, 56, 57, 85, 86; boots and shoes, 160; concentration of production, 49; development, 474; *Industrial Survey of the Lancashire Area*, 203, 206, 207, 210, 211, 213, 214, 229, 230, 232, 233; licensing, 441, 461; location of industry, 467; regional representatives, 473; statistics, 425, 454; survey made by Glasgow University, 154; Wales, 130
 Boat building, 77; Devon, 375; Southampton, 413-4
 Boilers, boiler-house equipment, 244, 319
 Bolton, 207, 218, 220, 223, 230 (footnote)
 Booth, Charles, 426
 Boots and shoes: Bristol, 364, 367; East Midlands, 287, 288, 313, 322; Lancashire, 205, 219, 220; Leicester, 11, 288, 300, 302, 304-8; London, 418; Northampton, 288, 290, 291, 292-7; Plymouth, 374; Scotland, 155, 160, 162; Wales, 104, 462; wartime sales, 37, 48; West Cumberland, 196; West Riding, 245
 Boots' Pure Drug Co., Ltd., 309, 319
 Border counties, 166
 Bournemouth, 410, 416 (footnote), 417
 Bournville, 343
 Bowley, Dr. Marian, *Local Authorities and Housing Subsidies since 1919*, Manchester Statistical Society, 447, 448
 Bradford, 244, 245, 247, 248, 257
 Brass founding, 105, 340, 344, 345
 Braughing, 394
 Bread, biscuits and cake, 35, 104, 159, 234, 276, 277, 284, 395
 Brecknock, 96
 Bretherton, Burchardt and Rutherford, *Public Investment and the Trade Cycle*, 373
 Brick, tile, pipe, sanitary ware, 58, 92, 93, 104, 334, 347
 Bridgend, 97, 105, 111, 459
 Bridgwater, 410
 Brighton, 380, 400, 404, 405
 Brinley Thomas, Prof., *The Influx of Labour into the Midlands*, 345
 Bristol, 72, 113, 359, 360, 364-70, 373, 452
 Britain in Recovery, 184
 British Ally, 41, 50
 British Celanese Ltd., 309, 317, 318
 British United Shoe Machinery Co., 306
 Briton Ferry Steel Co., 124, 130
 Brixham, 376, 378-9
 Bromley, 61, 433
 Bromsgrove, 333, 346
 Brush-making: Stroud, 363; Watford, 393
 Brymbo Steelworks, 91, 92
 Brynmawr, 104, 462
 Buckfast Abbey, 377
 Buckfastleigh, 375
 Buckinghamshire, Buckingham, 287, 289, 291, 299, 323, 389, 394, 395, 398, 399, 402, 406, 408, 422 (footnote), 452
 Building trade (*see also* Housing, Wartime Factories): Bristol 366, 367, 369; building machinery, 393; building materials, 164, 226, 453;

Building trade—*continued*

building priorities, 331, 407, 472;
 Devonshire, 373, 377, 379; Dundee,
 140-2; East Midlands, 289, 297, 309,
 319; Humber ports, 273, 284;
 Lancashire, 202, 225, 230, 232, 237;
 London, 423, 426, 448; national
 programme, 79, 82, 92, 135, 141,
 148, 160, 225, 256, 263, 264, 327;
 North-east Coast, 185, 186, 192;
 post-war building, 118, 356, 458;
 prefabricated building, 273, 415,
 Scotland, 135, 141, 145, 148, 160;
 163; sensitivity to trade cycle, 7
 (footnote), 466; South-east, 393,
 395, 412, 415, 416; Stoke-on-
 Trent, 326, 327, 330-2; Wales, 107,
 112, 114, 127, 462; wartime earnings,
 35; wartime industrial building, 52,
 53, 56-60, 83-5; wartime stoppage,
 41, 48; West Midlands, 345, 348,
 356; West Riding, 256, 263, 264
 Burn, D. L., *Economic History of
 Steelmaking*, 471
 Burnley, 207, 211, 215, 219, 220, 223,
 224
 Bury, 219, 220, 230 (footnote)
 Bute, 151
 Butter, 270, 274, 275, 278, 279
 Butterley Ironworks, 313
 Buttons, 104, 196, 340, 393
 Buxton, 313, 321

Cables, 105, 220, 235, 309, 319, 361,
 414-5, 430
 Cadbury, 343, 413
 Caernarvon, 90, 93
 Caerphilly, 104
 Calcium carbide, 126
 Calder, 150
 Camborne, 383, 385, 387, 388
 Cambridge, 8, 70
 Canada, 118, 119, 121
 Candles, 234
 Cannock Chase, 333, 353-5, 357
 Cardboard boxes, cartons, etc., 106,
 219, 225, 236, 313, 317, 364
 Cardiff: coal mining, 98; development
 area, 130, 454; emigration, 97;
 industrial structure, 105, 106, 108;
 new development, 111; transference
 of plant to, 100; transport con-
 nexions, 113; per cent unemployed,
 87, 101, 103
 Cardigan, 90, 289, 400
 Carfin, 155
 Carlisle, 200, 410
 Carmarthen, 6, 90, 96, 117, 119, 120,
 130
 Carpet manufacturing, 48, 50; Scot-
 land, 141, 150, 162; Southampton,

413; West Midlands, 335, 355-6;
 West Riding, 245
 Castle Bromwich, 341
 Castleford, 245, 247, 248, 257
 Catering Wages Act, 1943, 377
 Cement (asbestos), 393, 398
 Census of population, 454
 Census of production, 454-5
 Chad Valley Company, 334
 Chambers of Commerce (Dundee), 139
 Channel Islands, 118
 Chancellor of Exchequer, 469
 Chapelhall, 155
 Charlbury, 398
 Charnwood Forest, 300
 Chemical and Explosive Trades:
 chemicals, 58, 59; East Midlands,
 309; employment of women, 50;
 explosives, 53, 59, 73, 74, 76;
 Humber ports, 272, 273, 280; Lan-
 cashire, 207, 210, 212, 225-7, 234,
 239; London, 418, 420; North-east
 Coast, 167, 168, 171, 173, 180, 181,
 185-6; Scotland, 151, 159, 164;
 Southampton, 413; Wales, 90, 91,
 105, 127; West Cumberland, 196;
 West Midlands, 340; West Riding,
 245, 248
 Chepstow, 96
 Cheshire, 3, 6, 8, 90, 92, 167 (unem-
 ployment), 200, 202, 206 (footnote),
 207, 223, 225, 227, 228 (footnote),
 232, 237, 238, 242, 308
 Chesterfield, 243, 313, 320, 324 (foot-
 note)
 Chilterns, 395
 China Clay, 334, 386
 Chipping Norton, 398
 Chorley, 224, 225, 459
 Chrome ore, 126
 Cinderford, 359 (footnote), 361
 Civil Defence services, 45, 48, 478
 (footnote)
 Clackmannan, 8, 148
 Cleethorpes, 287
 Cleobury Mortimer, 336
 Cleveland, 167
 Clothing Industry: concentration, 49;
 Cumberland, 196; East Midlands,
 287, 290, 296, 300, 309, 313, 316,
 317; gloves, 398, 413; industrial
 building, 58, 59; Lancashire, 202,
 205, 207, 229, 232, 235; London,
 418, 420, 426, 432, 435, 436, 447
 (footnote); North-east coast, 181,
 186; pre-war prosperity, 36; Scot-
 land, 154, 162; seasonal short-time,
 9; South-east, 396, 398, 410, 413;
 South-west, 363, 364, 372, 375, 379;
 Stoke-on-Trent, 324; tailoring, 76;
 159, 232, 244, 418, 447 (footnote),

Clothing Industry—*continued*

Wales, 104, 106; warehousing, 70; wartime sales, 37, 48; West Riding, 241, 243, 244, 245, 247, 252, 255, 257; Clyde, the, 51, 64, 147, 151, 154, 155, 157-64, 457, 466, 469, 470, 473
 Clydebridge, 153
 Clyde Valley Planning Advisory Committee, 160
 Coal, 1, 2, 7, 9, 453, 456; Cumberland, 193, 195, 197, 198; East Midlands, 286, 287-300, 302, 305, 308, 309, 313, 316, 319-23; exports, 44, 468-70; Humber ports, 268, 270, 274, 276-9, 282; Lancashire, 202, 207, 210, 212, 213, 225-9, 232, 239, 240; London, 422; North-east Coast, 167-74, 176, 177, 182, 183, 185, 187, 188, 190, 192, 459; Scotland, 134, 147, 148, 150, 151, 153, 154, 159, 162; South-east, 401; South-west, 360, 361, 366, 379; stabilization of output, 458; Stoke-on-Trent, 324, 326, 329, 330, 331; turning-point in employment, 81-3; Wales, 89-92, 96-8, 100, 101, 104-6, 108-15, 119, 128; wartime earnings, 35, 37; West Midlands, 333-6, 339, 340, 343, 346, 347, 353-5, 357; West Riding, 241-5, 247, 248, 252, 253, 255-7, 259, 260, 262-5
 Coalbrookdale, 334
 Coal Mines Act, 1930, 228, 252, 260
 Coal Utilization, Parliamentary and Scientific Committee's Report, 1943, 151
 Coalville, 300, 302, 306, 307
 Coathridge, 159
 Cocoa and chocolate, 241, 364, 367, 369
 Coffee, 431
 Coke, 153, 176, 182, 296, 313
 Coleford, 359 (footnote), 361
 Colne, 218
 Colne Valley, 244
 Colonies (*see* Overseas Investment), 162, 345, 383, 466, 470
 Colville, 153
 Commerce and finance, 418, 419, 423, 432
 Concentration of production, 52, 68, 69, 74, 249, 322, 406, 433; boots and shoes, 302, 304; cutlery, 259; furniture, 432; hosiery, 69, 302, 303; less essential industries, 49; pottery 69; textiles, 159, 221, 363
 Concentration, post-war, iron and steel, 81; jute, 140; London, 461; pottery, 327; tinplate, 108; West Yorkshire, 265
 Concrete, 334, 398
 Consett, 176

Co-operative organization: control of industry, 142; for sales, research, etc., 50; lack of, Aberdeen fish and granite industries, 134; lack of, Cornish agriculture, fishing, mining 385, 387, 388; lack of, Dundee jute industry, 139; linen trade, 140; pottery, 328
 Co-operative Wholesale Society, 375
 Copper, 105, 125
 Corby, 10, 296, 298, 300
 Cornwall, 1, 3, 8, 359, 370, 381-8, 452
 Cotton, 1, 7, 9, 11; adjustment to war conditions, 44; competition of rayon, 251; Derby, 286, 289; East Midlands, 309, 313; Humber ports, 268, 270, 274, 276, 278, 279; Lancashire, 202, 203, 205, 207, 210, 212, 213, 215, 216, 218-25, 227, 229, 232, 233, 237, 239, 240, 456, 469; London, 422; post-war prospects, 82; Scotland, 162; short-time working, 12; Stoke-on-Trent, 324; thread, 162; wartime earnings, 35; West Riding, 241
 Cotton Board, 82, 220-3; Report on post-war problems, 216
 Cotton Industry (Reorganization) Act, 1939, 471
 Coulsdon, 77
 Council for Art and Industry (Committee's Report on *Design and the Designer in the Light Metal Trades*), 344
 Courtauld's, 343
 Coventry: emigration after last war, 80; factory dispersal, 51; industrial structure, 308, 333, 339-53, 355, 357; motors, cycles, aircraft, 11, 433, 466; new development, 60, 453; rate of increase, 305, 458; re-housing, 65
 Cowbridge, 103 (footnote)
 Cranes, 187, 300, 306, 315
 Cray, 425
 Crayford, 423, 433, 437
 Crofts, Lord, 137
 Crosse & Blackwell, 72
 Croydon, 434
 Cumberland: Cumberland Development Council, 196, 198, 199; depressed area, 3, 6, 167, 227, 454, 457; development, 191, 206 (footnote); emigration, 189; iron and steel, 81, 261; safe area, 111; trading estates, 179; training schemes, 13; West Cumberland, 193, 201; West Cumberland Industrial Development Company, 196, 199

- Cutlery, 48, 241, 243, 256, 259, 262, 813
Czechoslovakia, 298, 304
- Dagenham, 62, 428, 434
Dalkeith, 150
Darenth, 425
Darlaston, 339 (footnote), 348
Darlington, 170, 171, 185, 186, 190, 192, 459
Dartington Hall (rural industries), 376, 378, 380
Dartmouth, 375
Davison, Sir Ronald, 51, 56
Dawley, 336
Daysh, G. H. J., *A Survey of Industrial Facilities*, 195
Decentralization. *See* Dispersal
Dee, 94
Defence Industries (*see also* Admiralty), 184 (footnote), 207, 209, 371-3, 410, 412, 413, 437
De la Rue, 149
Demobilization, Industrial (*see also* Transition), 14-15, 78-81, 432
Dennison, S. R., *Location of Industry and the Depressed Areas*, 206
Denbigh, 90, 91
Depressed Areas, 1, 11, 12, 13, 53, 74, 80, 84, 347, 351, 352, 363, 374, 395, 398, 449, 451, 453, 454, 456, 457, 458, 459, 460, 461, 464, 465, 466, 469, 471, 473; Black Country, 346, 348; Cumberland, 179, 180, 199, 200, 201, 227, 454, 457; East Midlands, 286, 289, 320; Lancashire, 205, 206, 207, 209, 210, 213, 215, 219, 220, 223, 227, 228, 229, 239, 454, 457, 469; London, 436, 437; North-east Coast, 170, 171, 175, 176, 179, 180, 190, 457, 469, 473; Potteries, 457; Scotland, 181, 182, 185, 147, 150, 158, 160, 165, 454, 457, 464, 469, 473; South-east, 403, 405; South-west, 359, 369, 376, 387; Wales, 87, 95, 105, 107, 110, 115, 116, 119, 120, 179, 180, 363, 398, 454, 460, 468, 469; West Riding, 242, 243, 255, 262, 459, 469
Depression, depressed industries, 4, 7, 9, 11, 35, 69, 100, 116, 129, 143, 158, 171, 184, 193, 195, 196, 224, 233, 248, 267, 268, 270, 302, 307, 319, 325, 335, 339, 345, 357, 367, 400, 413, 423, 452, 467, 468; coal, 228, 256; cotton, 210, 218; depressed industries, 422; engineering, 174, 230, 256; iron and steel, 153, 256; jute, 138-9; linen, 149; motors, 349, 350, 353, 466; shipbuilding, 187; tin mining, 370, 382
- Derbyshire, Derby: 'disused chapels' 52; emigration, 289; industrial structure, 202, 207, 228, 243, 253, 265, 287 (footnote), 289, 308-9, 313-23, 452; population increase, 242; Survey area, 290; unemployment, 8, 286
Derwent Valley, 313
Desborough, 10
Development. *See* Housing and Industrial Development
Development areas, 130, 166, 201, 473
Development Board, 450
Development Committee, 127
Development Councils, xxxii, 387, 388, 449, 450, 462, 463
Development organizations, 197
Devon, 3, 76, 359, 370, 374-82, 384, 386, 409, 430, 452
Devonport, 370, 373
Dewsbury, 244, 248
Didcot, 398
Die-casting, 106, 113
Disinherited Youth (Carnegie Trust), 8
Dispersal (Decentralization): Factories, 12, 51, 52, 69, 70-3, 75, 76, 83, 259, 322, 386, 363, 367, 369, 406-7, 425, 430, 433, 436, 437, 439; 440, 441-4, 449, 450 (footnote), 465, Offices, 51, 61, 69, 70, 75, 77, 83, 91, 192, 213, 322, 406-7, 430, 431, 433, 439, 440-4, 446, 447, 450 (footnote); Population, 12, 43, 51, 52, 68, 77, 181, 406-7, 416, 437, 441-4, 449, 450 (footnote), 472; warehouses, 70
Dispersal (National Council of Social Service), 70
Distribution of incomes, 35
Distribution of Industry Bill, February 1945, 15, 130, 166, 192, 201, 473 (footnote)
Distributive trades, 35, 235 (footnote); Blackpool, 213; Bristol, 367; concentration, 49; Devon, 371, 377; Hull, 270; London, 418, 420, 433, 443; Scotland, 141; Stoke-on-Trent, 331, 332; Tyneside, 174; Wales, 101, 103; West Riding, 247
Docks and Shipping Services: Bristol, 364, 365, 369; Humber ports, 134, 268, 270, 274, 276, 282, 283, 285, 287; Lancashire, 202, 233, 236, 237; London, 418, 419, 422, 423, 436; North-east Coast, 168; Plymouth, 372; Southampton, 413, 414; Wales, 90, 95, 96
Domestic appliances, 48, 161, 164, 225, 264, 319, 403, 413, 453
Domestic servants, 10, 45, 48, 77, 100, 103, 213, 331, 337, 377, 409, 420, 456, 459
Doncaster, 243, 256, 257, 259, 260, 262, 265, 323

- Dormitory districts, 62, 171, 339, 346, 399, 400, 404, 433, 434, 437, 438, 442, 448
 Dorset, 416
 Dowlais, 65, 100
 Drainage, 284, 285, 352, 363
 Drink trades, 235, 343, 372, 396; breweries, 314, 393, 420; cider, 337, 375; soft drinks, 337, 379; wartime development in North-west, 59; wine, 279
 Droitwich, 338, 358
 Drop forgings, 104
 Duddon Estuary, 193
 Dudley, 339 (footnote), 341, 346
 Dulais Valley, 115, 119
 Dumbarton, 6, 8, 151, 158
 Dundee, 1, 3, 11, 34, 41, 87, 131, 132, 137-42, 165, 166, 452, 456, 457, 470
 Dunfermline, 149
 Dunlop, 73, 238, 341
 Durham, 2, 8, 167, 170, 176, 178, 180, 182, 190, 219, 228, 459; South-west Durham Improvement Association, 190
 Dursley, 362, 363
 Dyestuffs, 151, 275, 279, 418

 Eakring, 320
 Ealing, 63, 428, 433, 446, 447
 Earl Shilton, 300
 East Anglia, 1, 77
 Eastleigh, 414
 East Midlands, 286-323, 357, 399, 452, 453
 Ebbw Vale, 83, 103, 104, 108, 116, 122-4, 362, 458, 462
Economic Journal (statistics prepared by the National Institute for Economic and Social Research), 35
Economist, The, 41, 45, 82, 181
 Eden, 193
 Edinburgh, 131, 132, 143, 145, 147, 150, 163, 165
 Egyptian cotton spinning, 218
 Elastic webbing, 300; tapes and small-ware, 309, 316, 317
 Electrical apparatus, appliances, etc., 164, 191, 202, 205, 220, 232, 235, 339, 345, 347, 393, 415, 420, 430, 438, 440
 Electrification, 94, 95, 106, 113, 130, 166, 284, 285, 337
 Electro-chemical Industry, Electrical Engineering, 105, 106, 113, 114, 126, 127, 145, 151, 154, 161, 168, 174, 180, 186, 202, 205, 220, 226, 230, 247, 300, 306, 343, 345, 348, 357, 369, 379, 412, 413
 Elstree, 443
 Empire Exhibition (Glasgow, 1938), 154

Employment Policy and Organization of Industry after the War (Oxford University Press), 471
 Enamelling, Enamel-ware, 104, 120, 125, 126
 Engineering, 7, 53, 57, 58, 59, 75, 80, 459, 466; Humber ports, 267, 268, 273, 280; Lancashire, 202, 207, 209, 229, 230, 232, 239; London, 420, 430, 432, 437, 438, 440; Midlands, 2, 11, 12, 72; 287, 289, 290, 296, 300, 302, 305-9, 313-6, 318, 319, 322, 323, 334, 347, 356, 452; North-east Coast, 167, 171, 173, 174, 176, 177, 179-83, 185-9; Scotland, 132, 135, 138, 141, 142, 145, 149-51, 153, 158, 159, 161-8; South-east, 392-4, 396, 398, 410, 414, 415; South-west 361-4, 368, 371, 373, 375, 385-7; Stoke-on-Trent, 324, 329, 330, 331; Wales, 91, 93, 104, 105, 106, 126; West Riding, 69, 241-5, 248, 253-6, 259, 261, 264; women workers, 50, 78
 English stones, 113
 Entertainment Industry, 91, 174, 377
 Ericsson Telephones Ltd., 309
 Erith, 440
 Esk Valley, 150
 Essex, 8, 76, 389, 422 (footnote), 437
 Etruria, 327
 Europe, 109
 Evacuees, evacuation (*see also* Dispersal, Migration), 39-41, 62, 64-6, 76, 91, 213, 273, 376, 406, 409, 429, 430, 433, 434, 439; post-war evacuation from depressed mining towns, 110-1
 Exchange controls, 419
 Exeter, 375, 377, 378
 Explosives. *See* Chemicals
 Exports. *See* Trade, Overseas

 Factories:
 Government Agency Factories, 56, 60, 161, 163
 post-war factories, 328, 443, 472;
 post-war use of wartime construction, 56, 73, 473;
 Cornwall, 386; East Midlands, 307, 320, 321, 322; Lancashire, 224, 225, 227, 229, 237; London, 430, 433, 439, 440; North-east Coast, 185, 191; Scotland, 161, 163, 164, 166; South-east, 407, 416; Stoke-on-Trent, 329, 331; Wales, 106, 126, 130; West Midlands, 347, 349; West Riding, 256, 259, 263, 264;

Factories—*continued*

- pre-war supply of disused factories, 52;
 - Hertfordshire, 393; Lancashire, 205, 206; Stroud, 362;
 - wartime construction, 52, 53, 56-60, 66-7, 83-5
- Falmouth, 385
- Family allowances, 326, 456
- Far East, 388
- Fashion market, Fashion, 71, 317
- Fawcett, Professor, 230 (footnote)
- Fawley, 414
- Fife, 8, 141, 143, 147-9, 165
- Fishing Industry: Cornwall, 370, 384-8; Devon, 373, 376-8, 381; Humber ports, 266, 270, 273, 275, 276, 283, 284, 287; Lancashire, 214, 215; Scotland, 132-7, 142, 165, 166
- Wales, 90, 95
- Flax, 314
- Fleetwood, 214, 215
- Flint, 8, 89, 90, 91, 94
- Flour. *See* Grain
- Food Industry, 45, 58, 59; animal foodstuffs, 234; catering, 94, 174; 187, 377, 409; Devon, 372, 374, 380; East Midlands, 314; Humber ports, 269, 270, 273, 274, 276, 279; Lancashire, 232, 234, 235, 237; London, 420, 426; North-east Coast, 174, 186, 187; Scotland, 136, 141, 142, 143, 145, 154; South-east, 393, 396, 415; Wales, 94, 122; West Cumberland, 196; West Midlands, 334, 337, 339, 343, 345
- Ford motors, 428
- Forest of Dean, 359-62, 452; Development Association of the Royal Forest of Dean, 362
- Forestry, Afforestation, 95, 137, 166, 298, 299, 380
- Forestry Commission, 417
- Forestry Corps, 137
- Forgings (*see also* Iron and Steel), 196, 368
- Forth, 141, 149
- Foundries (*see also* Iron and Steel), 104, 105, 126, 132, 150, 153, 308, 309, 313, 314, 319, 393, 394
- France, 53
- Fraserburgh, 136
- Fuel and Light, 48
- Full Employment, xxix-xxxiii, 67, 72, 80, 153, 190, 191, 221, 237, 247, 296, 351, 450
- Furniture, furnishings: Bristol, 364; East Midlands, 309; Exeter, 375; High Wycombe, 395; Lancashire, 202; London, 71, 420, 426, 432, 435; North-east Coast, 177, 186, 187; pre-war sales, 37; Scotland, 137, 154, 160, 162, 166; Southampton, 413; wartime production, 48; wartime sales, 45; West Riding, 245
- Fylde area, 207, 210, 212, 213, 214, 215, 239
- Gainsborough, 287, 314
- Galvanizing, 96, 115, 120, 121, 128
- Garages, 141, 145, 377
- Garrigill, 193
- Garw, 105
- Gas, 113, 284, 285, 375
- Gas boilers, 225
- Gas engines, 315
- Gateshead, 171, 192
- Gears, 244
- Geevor Tin Mines, Ltd., 383
- General Strike, 1926, 118
- Geographical Journal*, 230 (footnote)
- Germany: casting, 185; end of war, 79, 80, 114, 374; hosiery machines, 305, 306, 318; machinery, 307; trawlers, 215
- Glamorgan, 6, 89, 96, 113
- Glasgow: development, 60; distributive trades, 49; industrial structure, 132, 154, 158, 159, 162, 165, 166, 454; trading estate, 318; University, 154 (footnote)
- Glass: Clyde, 159; decreased building for glass industry, 58; Grimsby, 275; Lancashire, 207, 226; North-east coast, 177; Wales, 104
- Glass, D. V., *Changes in Fertility in England and Wales*, 289, 400
- Glossop, 202, 287 (footnote), 289 (footnote), 313, 321
- Gloucestershire, 3, 286, 362, 370, 452
- Glue, 71, 280
- Glyncorrwg, 105
- Golay, J. F., 56
- Golborne, 228
- Goole, 266, 268, 270, 274, 276-85
- Government civilian services, 45, 68, 70, 367, 420, 423, 426, 443
- Gower Peninsula, 118, 127
- Grain and flour imports, 263, 270, 274, 372
- Grain- and flour-milling, 234, 273, 280, 284, 413, 418
- Grand Union Canal, 425
- Granite production, 93, 132, 134, 384
- Grantham, 287, 316
- Gravesend, 450
- Great War, 154, 170, 174, 176, 345, 346, 419, 469
- Great Western Railway, 104, 375
- Green Belt, 350
- Grimsby, 266-8, 270, 273-85, 290, 314, 323

- Guest, Keen & Baldwin, 100, 120
 Guest, Keen & Nettlefold, 130
 Guns and small-arms. *See* Munitions
 Gwendraeth Valley, 118
- Halifax, 244, 248, 254
 Hamble, 414
 Hampshire, 389, 390, 410, 416, 417
 Hampstead, 65
 Hansard: Barrow Haematite Steel Co., 210; coal mining, 81; depressed areas, 461; domestic service, 456; explosive factories, 53; export trade, 469; location of industries, 178
 Hardware (*see also* Metal Trades), 37, 45, 48
 Hare, A. E. C., *The Anthracite Coal Industry of the Swansea District*, 98, 117
 Harrow, 61, 76-7, 428, 433, 434
 Hartlepoons, The, 170, 171, 185, 187, (West) 192
 Hastings, 404
 Hats and caps (*see also* Millinery), 12, 196, 229, 275, 394, 395, 404, 468
 Hayes, 63, 428, 434, 439, 442
 Helvellyn, 193
 Hemp, 149
 Hendon, 425, 442
 Herefordshire, 76, 333, 337-8, 357, 452, 453
 Herring Fishing, 132, 135, 136; Committee on Herring Industry, 137
 Hertfordshire, 9, 52, 61, 67, 389, 390, 391, 392, 393, 394, 395, 399, 402, 406, 410, 422 (footnote)
 Hertfordshire Survey, 452
 Highlands and Islands, 131, 166
 High Wycombe, 395
 Hillington, 155, 159, 238, 318
 Hinckley, 300, 302, 303, 307, 355
 Hitchin, 394
 Holiday camps, 56, 94, 362, 380, 381, 410
 Holiday cruises, 414
 Holiday resorts, 91
 Holiday trades, 7, 82, 94, 149, 195, 198, 213
 Holidays with pay, 51, 150, 213, 360, 380, 400, 409
 Hollow-ware (*see also* Metal Trades), 79, 125, 340, 344
 Holyhead, 90
 Home Office, 441, 461
 Hosiery: concentration, 69; Cumberland, 216, 235; East Midlands, 11, 287-300, 302, 303, 307, 308, 309, 313, 316, 317, 319, 320, 322, 355; increased technical efficiency, 50, 472; London, 422; machinery, 305, 307, 309, 318; National Federation of Hosiery Manufacturers' Associations, 50, 304; Scotland, 132, 154, 162; seasonal short-time, 9; South-west, 386; Wales, 104; West Riding, 250
 Hospitals, 410, 447
 Hotels and Boarding Houses: Blackpool, 213; Devon, 377, 380; Dundee, 141; Forest of Dean, 362; Newcastle, 174; Oxford, 404; Stoke area, 331; Sussex, 409; West Midlands, 338-9
 House of Commons, 107, 137, 178, 461
 House of Lords, 137
 Housing (*see also* Building Trade): availability in war-damaged areas, 65, 66; condemned houses, slums, 40, 41, 458; correlation of housing and places of work, 44, 63, 66, 112, 201, 434, 444; Cumberland, 201, 454; East Midlands, 308, 322; housebuilding priority, 67, 68; housing estates, 75, 428, 442, 447; housing statistics, 447-8; Lancashire, 225, 227, 454; London, 424, 428, 434, 444, 447, 448; North-east coast, 179, 189, 192; private enterprise and local authorities, 448; Scotland, 140, 141, 160, 161, 454; South-east, 400, 405, 407, 408, 416; South-west, 369, 370, 380; Stoke-on-Trent, 326; Wales, 94, 107, 112, 115, 130, 454; West Midlands, 336, 337-8, 339, 343, 350, 363; West Riding, 259, 265
 Housing and Town Planning Act, 1909, 446
 Huddersfield, 243, 244, 248
 Hull, 51, 61, 134, 135, 266-70, 272-4, 276-85
 Humber, 1, 266-85, 290, 323
 Hungary, 304
 Huntingdon, 291
 Hurd, Sir Archibald, 184
 Hydro-Electric Development (Scotland) Act, 1943, 137; wartime hydro-electric developments in Scandinavia, 148
- Ice supply, 134
 Ideal Boiler and Radiators, Ltd., 273
 Ilfracombe, 375, 381
 Ilkeston, 313, 319
 Immingham (*see* Grimsby), 266, 274, 282-3
 Import Duties Advisory Committee, 1937, 328
 Imports. *See* Trade, Overseas
 India: brass imports, 344; cotton imports, 218; engineering development, 335; jute, 138-40

- Industrial Development: Cumberland, 196, 198-201; East Midlands, 299, 303, 305-9, 314, 315; Humber ports, 277, 281, 283-5; Lancashire, 202, 205, 206, 223-5, 227-9, 237-40; London, 427, 428, 431-3, 438-40, 442, 443; North-east Coast, 177, 179, 181, 189, 191, 192; post-war, 12, 74, 83, 451-4, 457-60, 470; pre-war, 467, 472; Scotland, 136, 141, 150, 151, 158-60, 163, 164; South-east, 389, 390, 392-6, 399-406, 408, 409, 412, 415, 416; South-west, 362, 364, 367, 369, 370, 373-5, 377-9, 381, 383, 386-8; Stoke-on-Trent, 324, 326, 329, 330, 331; Wales, 91, 95, 104, 106, 110-3, 115, 117, 120, 125, 127-30; wartime, 59, 67, 75-7, 466; West Midlands, 336-9, 345, 347, 350-3, 357-9; West Riding, 245, 259, 262, 263, 265
- Industrial Development Committee (Swansea), 127
- Industrial revolution, 100
- Industrial Survey of the Lancashire Area*, 203, 206, 207, 226
- Industrial Survey of South Wales, the second, 96, 126
- Ink, 280
- Institute of Naval Architects, 184
- Insurance companies, 69-70, 326
- Investigators, Chief Local, xxi, xxxiii, 13
- Investment, International, 237, 240
- Ireland, 401
- Irlam, 226, 230 (footnote)
- Iron and steel (*see also* Forgings, Foundries, Galvanizing, etc.), 1, 7 (footnote), 470-2; blast furnaces, 89, 103, 123, 153, 158, 193, 287, 296, 297; casting, 185, 341, 368; East Midlands, 287, 289, 290, 296-8, 301, 313-5, 322; forges, 45; Humber ports, 270, 274-6; industrial building, 58-9; iron, pig-iron, ironstone and iron-ore, 2, 45, 153, 182, 193, 197, 261, 274, 275, 287, 290, 296, 297, 298, 300, 301, 313, 315, 322, 334, 343, 346, 398, 399; Lancashire, 207, 226, 233; London, 418, 422; North-east Coast, 167, 168, 171, 176, 182, 186; rolling, 45, 89, 108, 193, 209, 241; Scotland, 81, 151, 153, 158, 159, 162-4; stamping, 196, 341; steel, steel sheet, steel axles, 2, 96, 103, 105, 108, 115, 120-25, 128, 130, 153, 158, 159, 163, 193, 196, 197, 209, 210, 226, 259, 260-4, 287, 296, 337; steel wire, 104, 226; steel works, Prime Minister's intervention, 103; Stoke-on-Trent, 324; strip mills, 103, 116, 123, 124, 129, 130, 296, 362; South-west, 362, 365, 398, 399; Wales, 89-92, 96, 97, 100, 103-5, 108, 115, 116, 120, 121-6, 128, 129; wartime earnings, 35; wartime output, 45, 48; West Cumberland, 193, 195-7; West Midlands, 334, 337, 340, 343, 346, 347; West Riding, 241-3, 256, 259-64; wrought iron, 153, 158
- Ironbridge, 334, 357
- Ironstone Areas Restoration Board (proposed), 399
- Isle of Wight, 389
- Islip, 296
- Italy, 118, 384
- Jam and preserve manufacture, 234, 276, 284
- Japan, 80, 121, 374
- Jarrow, 171, 472
- Jewellery, 104, 262, 340, 343, 349
- Johnston, Mr. T., 137
- Journey to work (*see also* Liepmann, K., *The Journey to Work*), 459; Birmingham, 62, 63, 339, 350
- Black Country, 62; East Midlands, 63, 299, 300, 302, 320; London, 62, 63, 426-9, 433, 434, 437, 442, 444, 448, 449; North-east Coast, 176, North-east Kent, 62; Scotland, 64, 147, 150; Surrey, 438; Wales, 62, 117, 119; wartime, 61-4; West Cumberland, 196, 201
- Jute industry, 11, 34, 37, 83, 138, 165, 456, 459, 470
- Juvenile employment: Boys, 9, 10, 11, 183, 187, 195, 198, 199, 325, 427, 443; Girls, 9, 10, 167, 178, 186, 187, 190, 325, 427, 443
- Juvenile Employment, London Regional Advisory Council for, 427
- Keadby, 284
- Keighley, 244, 247
- Kelsall, R. K., 266
- Kennet Committee on the Restoration of Land Affected by Iron-ore Working (H.M.S.O., 1939), 298, 398
- Kennet Valley, 395, 407
- Kent (North-east), 62, 76, 353, 389, 422 (footnote), 425, 427, 433, 434, 437, 439
- Kettering, 10, 290-2, 296
- Kidderminster, 333, 355-6, 357
- Kidwelly, 96, 117
- Kincardine, 132
- King's Lynn, 372
- Kirkcaldy, 149
- Kiveton Park, 313

- Lace manufacture, 50, 162, 238, 309, 313, 316, 317, 320, 322; lace net, 375
- Lake District, 198, 200
- Lanarkshire, Lanark, 6, 8, 131, 147, 151, 153, 154, 157-63, 165, 296
- Lancashire, 11, 200, 202-40, 277, 286, 308, 313, 321, 323, 389, 399, 469, 470; footwear, 293, 303; low wages, 424; market for North Wales coal, 92; tourists, 94; unemployment, 3, 6, 87, 167, 242, 381, 457; use of old factories, 191; wartime movement of offices to, 61, 430, 443; women employed, 10, 456
- Lancashire Industrial Development Council, 206, 239
- Lancashire Steel Corporation, 226
- Lancaster, 207, 213
- Land reclamation, 94, 298-9, 315
- Lapford, 373
- Larkhall, 155
- Laundries and cleaners, 35, 86, 377
- Lawn mowers, 48, 319
- Lea, 425, 433, 442
- Lead-mining, 193, 313
- Leather (*see also* Tanning), 58, 154, 245, 290, 294-6, 339, 420; saddlery and harness, 340-1; uppers, 196
- Ledbury, 336
- Lee, F., 290
- Leeds: dispersal of factories, 51; distributive trades, wartime, 49; industrial structure and prospects, 243-5, 247, 248, 252, 253, 255-7; post-war demand for factories, 75
- Leicestershire, Leicester, 3, 11, 63, 75-6, 219, 286-90, 299-308, 313, 317, 318, 322, 323, 326, 456
- Leigh, 227, 228
- Leith, 143, 147
- Letchworth, 390, 392, 393
- Lewes, 400
- Liepmann, K., *The Journey to Work*, 449 (footnote)
- Light metal industries (*see also* Metal Industries), 48-50, 80, 196, 343-5
- Lilleshall Co., 334
- Limestone, 313, 322
- Lincolnshire, Lincoln, 2, 103, 284-90, 297, 299, 301, 308, 314-6, 322, 352, 462 (footnote)
- Linen industry, 132, 141, 142; damask, 149
- Linoleum, 141, 148, 149, 213; hessian, 139
- Lister, R. A. & Co., Ltd., 362
- Liverpool, 11, 206, 236-8, 280, 281, 443, 467; University of Liverpool, *Population Problems of New Estates*, 11; *The Distribution of Population and the Location of Industry on Merseyside*, 232
- Llanberis, 93
- Llandarcy, 120
- Llanelly, 130, 457
- Llanelly Steel Co., 124, 130
- Loans Facilities Bill, 1939, 388
- Location of Industry (*see also* Dispersal), xxviii-xxxiv, 13, 15, 80, 81, 451, 453, 456, 457, 460-8, 471, 473; and Development Councils, 449; and House of Commons' resolution, 178; and wartime dispersal of factories, 51, 67; Birmingham, 351, 352; Bristol, 369; Devon, 376, 379; Lancashire, heavy chemicals, 226; London, 425-7, 439, 443, 444; North-east Coast, 179; Stoke-on-Trent, 329; Wales, 103, 114, 123, 130; West Cumberland, 199; West Riding, 265
- Location of Industry and the Depressed Areas*, *The*. *See* Dennison, S. R.
- Locomotive and wagon building (*see also* Railway engineering, Railway carriage and wagon building), 69, 161, 164, 244, 253, 308, 420
- London, 418-50; administrative centre, 192; amenities, 112, 407; boots and shoes, 293; clothing, 252, 426, 435; coal market, 353; commercial centre, 376; *County of London Plan*, 60, 407, 424, 426 (footnote), 429, 435, 439-41, 443, 450; development and prosperity, 74, 286, 346, 389, 395, 399; dispersal, decentralization, 13, 51, 60, 61, 62, 67, 68, 69, 70, 72, 76, 77, 159, 181, 363, 390, 391, 393, 398, 406, 407-9, 431, 433, 439, 442, 443, 453, 458, 461, 465;
- East End: clothing (*see* food and furniture); factory destruction, 51, 433, 436; decentralization, 393, 435, 436; dislocation, 439, 451; housing, 52; industrial structure, 351, 435; local attachment to, 64, 65, 67, 435; wartime movement from, 62; evacuation, 41, 43, 353, 436, 472; food, 426; furniture, 71, 426; *Greater London Regional Plan*, 15, 445, 450; Greater London Regional Planning Committee, 445; juvenile employment, 11; labour shortage, 467; light industries, 178; London County Council, 440, 441, 445, 446, 447, 448; London Passenger Transport Board, 426, 428, 445; new industrial building, 59; planning problems, 230, 379, 401, 402, 439-41, 451, 452; Pool of London, 450; Port of London, 418-20, 422, 423, 431, 432,

London—*continued*

436; printing, 392; reproduction rate, 289; retail sales, 37, 39; tourists from, 381; transport connexions and costs, 113, 134, 189, 190, 280, 380, 409, 413; travelling to work, 62, 66, 426, 436; unemployment level, 3, 4, 8, 107, 110, 151, 167, 220, 228, 236, 237, 319, 324, 347, 354, 355, 375, 436; wage level, 392, 394; women's employment, 9, 10, 203

London, Midland and Scottish Railway, 303, 313, 393, 408

London and North Eastern Railway, 274, 280, 420

Long Eaton, 308, 309, 320

Lossiemouth, 135

Lothians, the, 8, 131, 141, 147-8, 151, 165; East Lothian, 143, 150; Midlothian, 143, 147, 150; West Lothian, 143, 147, 150, 151

Loughborough, 300, 305, 306, 307

Low wages, 11, 12; Cornish tin, 383; jute, 139; Lancashire, 203, 205, 222, 303, 424; Leicester, 302; South-east, 452; Stoke-on-Trent, 326, 331; Stroud, 364; West Midlands, 336, 337, 452; West Riding, 248, 256, 257, 264, 424

Ludlow, 336

Luton, 12, 389, 394, 404, 468

Lydney, 359 (footnote), 361

Lymington, 414, 417

Lytham St. Anne's, 213

Machine belting, 106

Machinery, 270, 275-6, 279, 315-6, 466

Machine-tools, 91, 106, 136, 161, 164, 230, 244, 249, 254, 259, 306, 307, 352

Maesteg, 105

Magnesium, 48-9

Maltby, 263, 308, 313

Malvern, 338-9, 358, 453

Malvern Development Association, 339

Manchester, 1, 87, 200, 207, 213, 226, 227 (footnote), 229, 230, 232, 239, 467; University of Manchester, *Readjustment in Lancashire*, 203, 207, 213, 225, 230

Manchester Ship Canal, 226

Mansfield, 313, 320

Margam, 120

Margarine, 272

Market-gardening, 118, 127, 382, 387, 400

Market Harborough, 291, 300

Marks & Spencer, 252

Maryport, 193

Mass-Observation, 67, 77

Mass-production, 159, 160, 162, 163, 293

Matches, 234, 280

Matlock, 313, 322

Mechanization: coal industry, 109, 147, 148, 154, 162, 170, 182, 183, 197, 228, 253, 260, 305, 316, 329, 330, 354; Newhaven port, 401

Medical facilities, 339

Medicinal products, 48 (footnote), 164, 393, 418

Mediterranean, 147, 414

Medway towns, 401, 450

Melton Mowbray, 300

Men Without Work (Pilgrim Trust), 8

Merchant Navy, 183-4, 466

Merioneth, 90

Merseyside, 64, 207, 232-40, 273

Merthyr Tydfil, 65, 96, 97, 104, 119

Metal trades, miscellaneous (*see also* Light Metal): East Midlands, 308, 309, 314, 319, 320; London, 420; metal boxes, 235, 273; metal windows, 90, 91; Scotland, 149, 154; South-east, 395, 396, 398; South-west, 361, 375; Stoke-on-Trent, 330; West Midlands, 333, 336, 339, 340, 343, 344, 345, 347, 352, 355, 357; West Riding, 245, 262, 263

Middlesbrough, 170, 171, 174, 185, 186

Middlesex, 52, 76, 422 (footnote), 423, 425, 433, 437, 438

Migration of workers (*see also* Dispersal, Evacuation), 2, 3, 452, 458-9, 468; Cumberland, 195, 198; East Midlands, 289, 298, 314; Humber ports, 267, 274, 277, 280-2; Lancashire, 202, 203, 210, 211, 213, 227 (footnote), 236, 237; London, 424, 425, 431, 441, 458; North-east Coast, 180, 181, 182, 188, 189, 459; Scotland, 2, 131, 142, 147, 157, 158, 166; South-east, 389, 395, 398, 400, 403, 408, 410, 458; South-west, 361, 367-9; Wales, 2, 93, 94, 96, 97, 98, 101, 107, 114, 116, 125, 130, 458, 459; wartime migration, 39-44, 64, 65, 68, 472; West Midlands, 335, 337, 338, 345-7, 349, 351, 353, 357, 458; West Riding, 242, 255, 264

Milford Haven, 90, 95, 96

Milk, 279, 337, 378, 379, 398

Millom & Askam Hematite Iron Company, 193

Millinery (*see also* Hats and Caps), 162, 202, 418

Mineral Resources and the Atlantic Charter (British Association), 383

Miners, 66

Miners' lamps, 106

- Mining (*see also* Coal, Iron and Steel, Lead), 45, 78, 307, 309, 313, 315, 361
 Mining machinery, 306, 440
 Mining products, 58, 313
 Ministry of Aircraft Production, 53, 163
 Ministry of Food, 56
 Ministry of Fuel and Power, 81
 Ministry of Health, 39, 40, 63, 463
 Ministry of Labour, 454-5; depressed areas, 320, 321, 461; domestic service, 456; employment statistics, 262, 424; Lancashire, 203, 206, 223; location of armament works, factories, etc., 53, 60; London, 422, 427, 441; North-east Coast, 174, 188; Restoration of Pre-war Trade Practices Bill, 79; wartime transfer of labour, 41; West Riding, Notts., Derby, 242
 Ministry of National Insurance, 70, 192
 Ministry of Supply, 53, 209
 Ministry of Town and Country Planning, 473
 Mobility of labour, xxix, 51, 66, 71, 72, 444
 Molasses, 270, 273
 Monmouth, Monmouthshire, 6, 8, 89, 96, 97, 98, 101, 104, 111
 Montgomery, 90
 Montrose, 142
 Morley, 244, 245, 247
 Morris Motors, 397, 402, 403
 Morrison, Herbert, 446
 Motherwell, 159
 Motor industry: East Midlands, 309, 315, 318, 319; Lancashire, 202, 216, 220, 226, 237, 238; London, 420, 430; Luton, 12; post-war prospects, 32; prosperity, 36, 58, 59; Scotland, 145, 151, 154, 159; sensitivity to trade cycle, 7, 451, 466; South-east, 393-8, 402, 404, 408, 413, 414, 451, 466; South-west, 367, 368; Wales, 106, 122, 123, 126; wartime sales, 45, 48; West Midlands, 11, 339-41, 343, 345-50, 352, 353, 357, 466
 Munitions: East Midlands, 320-22; guns, small arms, etc., 53, 158, 159, 163, 240; Lancashire, 238; London, 430, 432; North-east Coast, 180, 187, 189, 191, 192; post-war, 50, 73, 74, 76, 77, 79, 111, 191, 192, 198, 321, 322, 330-2, 349, 374, 437, 459; Scotland, 142, 159, 164; South-east, 406, 415, 427, 433, 434; South-west, 374; Stoke-on-Trent, 330-2; training, 51; Wales, 91, 104, 106, 111, 114, 126; wartime employment and expansion, 39, 41, 45, 48, 53, 57, 62, 63, 78, 433, 434; West Cumberland, 197, 198; West Midlands, 349; West Riding, 248, 255; women workers, 10, 427, 432
 Musical instruments, 48, 420
 Musselburgh, 150
 Nailsworth, 362-3
 Nairn, 181
 Nantlle, 93
 National Council of Social Service, 68, 70, 112
 National Housing and Town Planning Council, 39, 362
 National Park, 94, 95, 200, 362, 454
 Neath, 62, 96, 97, 98, 103, 115, 117, 119, 127
 Nelson, 218
 Newark, 287, 314, 315
 Newbattle Abbey, 150
 Newbury, 395, 407
 Newcastle, 70 (footnote), 174, 176, 190, 192
 Newcraighall, 150
 New Crown Forging Works, 159
 New Forest, 416, 417
 Newhaven, 400, 401, 405
 New Mills, 202, 287 (footnote), 289 (footnote), 313, 321
 Newport (Monmouthshire), 97, 98, 101, 103, 106, 110, 111, 113
 Newport (Salop), 336 (footnote)
 Newport Pagnell, 299, 399, 408
 Newton Abbot, 375, 376, 377
 New York World's Fair, 1939, 139
 Nickel, 125
 Non-ferrous metal industries, 7, 58, 125, 340, 364, 420
 Norfolk, 8
 Northampton, 2, 8, 10, 286-300, 304, 322, 398, 399
 North-east Coast, 161, 164, 167-92, 466; connexion with West, 200; depressed area, 3, 10, 151, 166, 196, 242, 264, 320, 457, 469; future, 77, 470, 473; wartime experience, 39, 111; wartime transfer of workers, 41; women's war work, 51
 North-east Development Board, 178, 179; *Survey of the Industrial Facilities of the North-east Region*, 1942, 190; reconstituted as North-east Development Association, 190
 Northern Civil Defence Region, 167
 Northern Division, 189
 Northern Industrial Group, *Considerations Affecting Post-war Employment in the North-East*, 182, 187, 188, 191
 Northern Ireland, 85, 149, 248

- Northumberland, 8, 167, 170, 176, 178, 180, 182
 North-western Region, 200
 Norwich, 304
 Nottinghamshire, Nottingham, 228, 242, 243, 253, 259, 265, 286, 288, 289, 290, 308, 309, 313-23, 326, 452, 453
 Nuffield, Lord, 403
 Nuffield College and Social Reconstruction Survey, xxv, xxxiii, 12 13, 51, 68, 70, 76, 77, 81, 83, 89, 93, 94, 96, 104, 113, 131, 132, 142, 154, 166, 171, 180, 187, 192, 202, 207, 232, 241, 289, 290, 322, 333, 338, 376, 388, 389, 392, 415, 442, 451-54, 457, 464, 465, 470
 Nuffield Trust, 462
 Nuneaton, 354, 355
 Nuts and bolts, 104, 340
 Oakengates, 334, 336, 357
 Offices. *See* Dispersal and Decentralization
 Office workers (London), 427-9, 432
 Ogmores, 105
 Oil (*see* Petrol), boring, 320; drums, 120, 125; engines, 315; from coal, 105; fuels and lubricants, 151; imports, 372; refining, 104, 414
 Oil-cake and oil-seed, 234, 268, 269, 272, 273, 280, 285
 Oilcloth, 148-9
 Oldham, 207, 215, 219, 220, 223, 224, 230 (footnote)
 Ouse, 274, 277, 280, 281
 Overseas Investment (*see* Colonies), 114, 162, 164, 185, 188
 Oxfordshire, Oxford, 61, 67, 299, 323, 389, 395, 397-9, 401-4, 406, 408, 430, 442, 451, 452, 466
 Oxford University: Institute of Statistics *Bulletin*, 49
 Paignton, 380
 Paints and varnish, 225, 234, 272, 273, 393, 413
 Paisley, 159
 Pallion (trading estate), 178
 Paper and printing (*see* Publishing): concentration, 49; Cumberland, 196; decreased industrial building, 58; development in North-west, 59; East Midlands, 309; Humber ports, 270, 275, 279, 284; Lancashire, 202, 225, 234; London, 418, 420; North-east coast, 174; Scotland, 141, 142, 145, 149, 150, 154; South-east, 391-3, 396, 398, 406, 413; South-west, 363, 364, 372, 375; Wales, 90; wartime earnings, 36; West Midlands, 356; West Riding, 244, 245
 Panteg, 104
 Peacehaven, 401
 Pembroke, Pembrokeshire, 90, 95, 96, 103
 Penarth, 103 (footnote)
 Penistone, 243
 Pennines, 224
 Pensioners, 68, 371, 399, 400, 404, 405, 410
 Penygroes, 93
 Personal Services (*see* Domestic Service, Laundries, etc.), 377, 399
 Perth, 131
 Peterborough, 286 (footnote), 287 (footnote), 289 (footnote), 290 (footnote)
 Peterhead, 135, 136
 Petrol (*see* Oil), 270, 275
 Photographic material, 393, 420
 Planning (*see also* Town Planning), xxviii-xxxv; East Midlands, 315, 321, 322; engineering, 251; local, 75-7, 79, 115, 127, 128, 150, 106, 190, 337, 379, 405, 416, 417, 428; national, 79, 115, 129, 132, 151, 160, 188, 190, 322; need for comprehensive planning machinery, 451-5; new Government machinery, 473; planning and location of industry, 460-6, 471, 472; regional, 70, 188, 200, 265, 322, 323, 333, 348, 352, 357, 358, 402, 409; shipbuilding, 184-5; Welsh anthracite, 119; Welsh slate mining, 93; Welsh tinplate and steel, 129
 Plasterboard, 440
 Plastics, 91, 112, 114, 122, 140, 151, 164, 363, 374, 393
 Plymouth, 359, 370-9; City of Plymouth Plan, 374, 375, 387
 Point of Air, 90
 Poland, 136
 Polishes, 272, 273, 393
 Pontefract, 243, 244, 245
 Pontnewynydd, 104
 Pontymister, 104
 Pontypool Road, 111, 113
 Pontypridd, 65, 97, 98, 100, 101, 104
 Poole, 417
 Population (*see also* Migration), 41-4
 Cumberland, 195, 198; East Midlands, 289, 295-9, 314, 322; Humber ports, 266, 267, 273, 274, 276, 277, 280, 281, 285; Lancashire, 210, 211, 236, 237; London, 408, 409, 423-6, 430, 441-3, 448, 453, 472; North-east Coast, 180; North-west, 3; Scotland, 161; South-east, 390, 394, 395, 398, 400, 401, 406, 407, 412,

Population—*continued*

- 452; South-west, 359, 367-9, 370, 375; Stoke-on-Trent, 324, 332; West Midlands, 336, 337, 346, 347, 356; West Riding, 257, 259
- Porth, 104
- Porthcawl, 103
- Portslade, 405
- Portsmouth, 61, 373, 390, 410, 412-3, 415, 416, 451
- Port Talbot, 62, 96, 101, 104-5, 120, 130, 457
- Pottery and earthenware (*see also* Bricks, etc), concentration, 69; Devon, 374, 375, 377, 379; East Midlands, 313; obsolete factories, 50; sensitivity to trade cycle, 7 (footnote); short-time, 12; Stoke-on-Trent, 324, 326-31, 356, 457, 472; wartime decreased building, 58; wartime industrial training, 459
- Powell Duffryn Works, 104
- Precision Instruments, 393, 420
- Pressed Steel Co., 397, 403
- Presses, press machinery, 319, 341, 393; motor pressings, 126
- Preston, 207, 220
- Prestwick, 164
- Production quotas, 123, 128
- Protection of the New Forest* (Planning Officers' Report), 417 (footnote)
- Public utilities, 35, 36, 45, 113, 127, 332, 352, 363, 418, 458
- Publishing (*see* Paper and Printing): Lancashire, 202; London, 418, 420; North-east coast, 174; Scotland, 141, 142, 154; West Riding, 245
- Purley, 77
- Quarrying, 361, 372; clay, 376; granite, 384; gravel, 398; ironstone, 290, 300, 398; limestone, 313; machinery, 306; slate, 89, 90, 92, 93, 384; stone, 90, 300, 334, 376, 384
- Quotas. *See* Tariffs
- Radnor, 96
- Rag flock, 104
- Railways, carriage and wagon building, 7, 253, 318, 334, 408; engineering (*see also* locomotive engineering), 104, 256, 260, 262, 280; workers, 280
- Raleigh, 309
- Rationalization, reorganization (*see also* Reconstruction and Standardization), 50, 69, 80, 466, 470-3; agriculture, 387; Cornish fishing, 385, 388; Cornish tin, 333; hosiery, 50, 304, 307; pottery, 328; shipping, 413, 414
- Rationing, 37, 39, 49, 460
- Raunds, 292
- Ravensbourne, 425
- Rayon: East Midlands, 289, 309, 317, 318; Lancashire, 213, 216, 218, 220, 222, 223, 228, 234, 238; post-war, 82, 352; Scotland, 149; Wales, 90, 91; West Cumberland, 196; West Midlands, 12, 339, 343, 345, 352, 355; West Riding, 241, 245, 247, 250, 251
- Reading, 395, 396, 407, 434, 442
- Rearmament, xxxi, 162, 174, 197, 209, 230, 235, 236, 255, 337, 347, 349, 412, 465, 467
- Reconstruction (*see also* Rationalization), 68, 451, 457, 465, 466; carpets, 356, 357; Humber ports, 282; Lancashire, 215, 221, 223, 239; North-east Coast, 182, 185, 187; pottery, 329; Scotland, 135, 161, 163; ship-building, 49; South-west, 363, 370, 375, 388; steel, 45; Sussex, 409; Wales, 109, 114
- Redditch, 335 (footnote), 341
- Redistribution of Industry and Population. *See* Dispersal
- Redruth, 359, 333, 385, 387, 388
- Refractories, 104
- Refugee firms, xxxi, 113, 155, 461, 463, 465
- Registrar-General (annual Statistical Review), 454-5
- Registration for Employment Order, 1941, 41
- Renfrew, 6, 8, 151, 153, 163
- Requisitioning, 52, 74, 273, 283, 386
- Research: china clay, 384; Cornish flower industry, 382; development councils, 462; Devon, 378; jute industry, 139; pottery, 328; Wales, 112, 114; West Midlands, 333; wool industry, 251
- Resin, 440
- Restoration of Pre-War Trade Practices Bill, 1942, 79
- Retail sales, wartime, 48
- Retford, 314, 323
- Rhondda, 97, 98, 100, 101, 104, 105
- Rhymney, 97, 100, 101, 104
- Richardson, J. H., *Industrial Employment and Unemployment in West Yorkshire*, 243
- Ripley, 313
- Robson, Dr. W. A., 445 (footnote), 447
- Rochdale, 207, 220, 223, 230 (footnote)
- Roding, 425
- Rolls-Royce, Ltd., 159, 163, 308, 318
- Rome, 447
- Ross, 336
- Ross and Cromarty, 6

- Rossendale Valley, 205, 206, 207, 219, 220, 293, 304
 Rosyth, 149
 Rotherham, 10, 256, 257, 259, 260, 262-5, 321
 Royal Ordnance Factories, 52, 53, 56-60, 63, 74, 84; Lancashire, 224, 225, 459; North-east Coast, 181, 185, 189, 191; Scotland, 158, 159, 161-3
 South-east, 398; Wales, 91, 104, 105, 111, 126, 459; West Cumberland, 196, 198, 201; West Midlands, 337; West Riding, 259, 263, 459
 Rubber, 145, 151, 234, 294-5, 318, 324, 330, 393
 Rufford Abbey, 321
 Rushden, 290, 291, 293
 Rutland, 286, 287, 289, 299, 300
 Safe and strong-room manufacturing, 334
 St. Albans, 390
 St. Austell, 384
 St. Helen Auckland, 178
 St. Helens, 207, 225, 226, 227 (foot-note)
 St. Helier, 428
 St. Just, 383
 Sanctions, 1936, 384
 Salford, 207, 218, 229, 230, 232, 239
 Saltash, 387
 Savings Campaigns, 37
 Saw-milling. *See* Woodwork
 Scandinavia, 147-8, 188
 Schools, 56, 339, 380, 410, 447
 Scilly Isles, 382
 Scotland, 131-66, 280; development, 59, 75, 454, 463; emigration, 2, 43; employment and unemployment, 1, 3, 6-8, 87, 219, 347; iron and steel, 81; tourists, 381; wartime retail sales, 37; wartime training, 78
 Scott Committee, *Report of the Committee on Land Utilization in Rural Areas*, 73, 94, 95, 225, 298-9
 Scottish Co-operative Wholesale Society, 137, 159
 Scottish Council on Industry, 1942, 163
 Scottish Development Council, 154-5
 Serews, pins, hairpins, 340, 363
 Scunthorpe, 287, 314, 315, 316, 322
 Seascale, 198
 Sedgley, 339
 Seed growing, 396, 413
 Selby, 266, 277, 280-2, 285
 Select Committee on National Expenditure, 52, 56, 63, 158, 163
 Service Trades: Bristol, 366-7, 368, 369; East Midlands, 289, 297, 309, 320; Humber ports, 284; Lancashire, 202, 205, 207, 229, 235, 236, 240; London, 418, 419, 420, 422, 423, 426, 432; North-east Coast, 174; Plymouth, 373; Scotland, 143, 145, 149, 150, 154; Stoke-on-Trent, 324, 326, 330, 331, 332, 345; South-east, 392, 405; Wales, 108, 127
 Severn, 1, 53, 97-8, 106, 110, 112; road bridge, 95, 113, 127
 Sewage disposal plant, 79
 Shale mining, 150-1
 Shannon and Grebenik, *The Population of Bristol*, 359, 367 (footnote)
 Sheffield, 51, 61, 256, 257, 259-63, 265, 309, 313, 321-3
 Sherwood Forest, 321
 Shieldhall, 159
 Shipbuilding and Repairing: employment, 1, 7; Humber ports, 268, 270, 273, 276, 280; Lancashire, 202, 207, 209, 233, 234, 236; London, 418i
 419, 422, 423, 430; National Shipbuilders' Security, Ltd., 158, 270; North-east Coast, 167, 168, 170, 171, 173, 174, 176, 177, 180, 182-8; prospects, 80; Scotland, 132, 141, 145, 149, 151, 154, 158, 161, 164; South-east, 410, 412-4; South-west, 367, 371, 373, 375, 385, 386; stabilization, 470, 471; Wales, 104, 105; wartime earnings and expansion, 35, 49
 Shipley, 247
 Shoddy, 244
 Shoreham Harbour, 401
 Shotton, 92, 123
 Shovels, mechanical, 104
 Shrewsbury, 127, 334
 Shropshire, 333, 334, 336, 338, 357, 452, 453
 Sidmouth, 381
 Silica, 126
 Silk, 149, 245, 340
 Silloth, 410
 Silverman, H. A., *Studies in Industrial Organization*, 83, 132, 229
 Singer, 162
 Skegness, 287
 Skipton, 243
 Slate mining. *See* Quarrying
 Slough, 389, 395, 401, 406, 438-9
 Smethwick, 339 (footnote), 341, 346, 347
 Smith, W., *The Distribution of Population and the Location of Industry on Merseyside*, 232
 Snowdon, 94, 95
 Soap, 151, 234, 272, 280
 Social security, 191, 405
 Society of Friends, 104, 462
 Solihull, 346

- Somerset, 359 (footnote)
 Southall, 63, 428
 Southampton, 51, 65, 66, 78, 373, 390, 410, 412-16.
 Southend, 450
 Southern Railway, 400, 401, 409, 414
 Southsea, 410
 South Shields, 171, 176, 192
 Special Areas, xxvii, xxxiv, 6, 238, 441, 454, 461-5, 467, 468, 471, 473; Commissioners, 154, 155, 176, 179, 190, 196, 199, 462, 464; Lancashire, 207, 220; North-east Coast, 111; Scotland, 166, 454, 464; Special Areas Acts, 107, 178, 199, 206, 387, 388; Special Areas Reconstruction Association, 462; Wales, 90, 96, 103, 130, 454, 465; West Cumberland, 193, 200, 201
 Speke Trading Estate, 206, 443; air frame factory, 237, 238
 Spenborough, 245
 Spondon, 309, 317, 318
 Staffordshire, 6, 8, 228 (footnote), 326, 332, 333 (footnote), 353
 Stalybridge, 213
 Standard Engineering Company, 306
 Standardization (*see also* Rationalization), 50 69; hosiery and hosiery machinery, 303, 318; pottery, 328; utility furniture, 160
 Standard of living, rising, 221, 251, 317, 327, 345, 348
 Stanton Ironworks, 313, 319
 Staveley Coal and Iron Company, 313
 Stewarts and Lloyds, 296
 Stirling, 8
 Stock-piling, 470
 Stockport, 207
 Stockton, 170, 171, 185, 186
 Stoke-on-Trent, 11, 308, 324-32, 452, 456; Stoke Technical College, 331
 Stonehouse, 370
 Stone quarrying. *See* Quarrying
 Stourport, 333, 355
 Stove and grate trade, 263
 Stratford, 420
 Stroud, 359, 362, 363
 Suffolk, 3, 8, 286
 Sugar, 234, 270, 275, 278, 279; machinery, 161, 162, 318; sugar beet, 280, 356
 Summers, J., & Sons, Ltd., 92
 Sunderland, 171, 176, 177, 178, 183, 187, 192
 Surgical appliances, 196
 Surrey, 61, 76, 289, 389, 422 (footnote), 425, 428, 433, 434, 437, 438, 440, 42
 Sussex, 289, 389, 391, 399, 400, 401, 404-6, 408-410
 Sutton, 313, 320
 Sutton Coldfield, 346
 Swadlincote, 313, 321
 Swansea, 62, 98 (footnote), 117, 119, 120, 127, 130, 457
 Swaythling, 414
 Switzerland, 304; Swiss firms, 149, 185
 Synthetic fibre industries, 252
 Tamworth, 354
 Tanning (*see also* Leather), 234, 375, 418; United Tanners' Federation, 294
 Tariffs and Quotas, 400, 470; boots and shoes, 293; fish, 385; glass, 226; granite, 384; hosiery, 303; jute, 140; pottery, 328; road materials, 401; steel, 120; woollens, 250
 Tarran Industries Ltd., 273
 Taxation, 37
 Tay, 141, 149
 Tea, 431
 Team Valley (trading estate), 178, 179, 186
 Technical Change: agriculture, 380; boots and shoes, 295, 296, 306; coal, 260, 289, 343; cotton, 221-3; glass, 226; heavy chemicals, 225; hosiery, 304, 317; increased efficiency, 49-50, 80-1, 322, 369; iron, 153, 158, 297, 472; jute, 139, 140; lace, 317; motors, 403; pottery, 326, 328, 379; shipbuilding, 183; slate industry, 92; steel, sheet and tinplate, 121, 153, 158, 162, 261, 472; woollens, 250-2
 Tees, 153, 170, 171, 183, 185, 192
 Telephones: facilities, 61, 70, 439, 445; manufacture, 104, 309, 318
 Tettenhall, 339
 Textiles: East Midlands, 287, 303, 308, 309, 313, 316, 317, 320; engineering and machinery, 220, 223, 244, 318; Lancashire, 202, 216, 232, 233, 235; London, 422; post-war, 470; Scotland, 138, 148, 149, 159, 162; South-west, 362, 363; warehousing, 70; wartime, 58, 59; West Cumberland, 196; West Midlands, 355, 356; West Riding, 241, 243, 244, 245, 252
 Thames, 398, 401, 425, 433
 Thomas, F. G., *The Changing Village*, 378
 Thomas, Richard, & Co., Ltd., 83, 103, 104, 121, 128, 130, 462
 Tickhill, 313
 Tied Leases, 306
 Times, *The*, 41, 51, 56, 184, 412; *Trade and Engineering Supplement*, 56, 57, 59, 85-6

Timber: Humber ports, 269, 270, 273, 274; London, 418, 440; Scotland, 136, 137, 142, 166; South-east, 413, 415, 416; South-west, 372, 379

Tinplate: Birmingham, 340; Bolivian lode mines, 383; Cornwall, 370, 382-8; Forest of Dean, 361; smelting, 234; terneplates and black-plates, 122, 468; tin boxes, 104-6, 125, 313; Wales, 83, 89, 90, 96, 97, 103-6, 108, 115-25, 128-30, 458, 459, 468, 470

Tipton, 339 (footnote), 346

Tir John Power Station, 119

Tiverton, 375

Tobacco: Bristol, 364, 367; Mersey, 234, 235; Nottingham—'Players', 309, 319; Southampton, 413, 415; wartime earnings and development, 36, 59

Tom Puddings, 277

Tools and implements, 241, 243, 256, 262, 313

Torpoint, 387

Torquay, 380

Totton, 414, 415

Tourist Trade, 76, 453, 454; East Midlands, 287, 313, 314; Lancashire, 213; London, 418; Scotland, 142, 150, 166; South-east, 391, 399-401, 404, 409, 410, 417; South-west, 360-2, 370, 373-5, 377-82, 386; Wales, 89, 90, 92, 94-6, 127, 129, 130; West Cumberland, 198; West Midlands, 338, 357, 358

Towcester, 10

Town and Country Planning Acts, 115

Town planning (*see* Planning), xxxv, 76, 77, 465; Birmingham, 350, 352; Devon, 377, 381; East Midlands, 307, 319, 321; London, 402, 407-9, 435, 438-43, 445-52; Manchester, 230; Scotland, 142; South-east, 393, 401, 404, 410, 415; Wales, 94, 112, 117, 130; West Riding, 259, 265

Toy industry, 334, 413

Trade, overseas, 7, 14, 44, 45, 145, 157, 188, 207, 232, 233, 237, 283, 365, 366, 392, 400, 410, 413, 419; agricultural products, 268-79, 372, 431; anthracite, 108, 117, 118; boots and shoes, 293, 295, 305; brass, 344-5; chemicals, 272-9; china clay, 384; coal, 44, 98, 108, 147, 148, 150, 182, 188, 227, 274-82, 329, 330; cotton, 44, 216, 218, 221, 223, 260 268-79; engineering, 185, 384-6; fish, 136, 137, 274, 384; hosiery machinery, 318, 319; hunters, 401; iron and steel, 261, 270-9, 337; jute, 138, 104; machinery, 270-9; machine-tools,

161, 254, 255; paper, 270, 274-9; petrol, 270, 274-9; post-war prospects, 75, 186, 188, 406, 431, 452, 468-70; pottery, 327, 328; ship-building, 183, 186; timber, 269-72; tinplate, 83, 124; woollens, 249-52 (Export Group scheme, 252), 268-79, 431

Trade cycle, 466-8, 472; East Midlands, 288, 302, 315, 316, 322; Humber ports, 282; Lancashire, 209, 220, 226, 230; London, 423; North-east, 167, 168, 170, 171, 174, 187; Scotland, 139, 143, 157, 158, 165; sensitivity to, 3, 7; Wales, 107; West Cumberland, 195, 197; West Midlands, 334, 346, 348; West Riding, 242, 248, 257, 264

Trade Unions, 293, 294, 306

Trading Estates, xxxi, 74, 452, 462, 464, 465; East Midlands, 320; Lancashire, 206, 224, 237; London, 440, 443; North-east coast, 178, 179, 186, 189, 190-2; Scotland, 147, 150, 155, 159, 162, 164; South-east, 395, 403; South-west, 362, 376, 380; Stoke-on-Trent, 329, 331; Wales, 91, 96, 111, 113, 126, 127; West Cumberland, 196; West Riding, 263

Training: depressed areas, 13; for light industries, 238, 239; post-war, 94, 374; pottery, 328; technical colleges, 126, 192, 315; wartime, 51, 73, 83, 330, 331, 338, 362, 415, 459-60

Training for War Industry in Scotland, 78

Transatlantic flying, 93, 112, 164, 453

Transition (to peace-time production) (*see also* Demobilization, Industrial, and Reconstruction), 60 114, 128, 307, 382

Transport Industry, 45, 463; Cumberland, 200, 201; Devon, 376, 379, 380; East Midlands, 299, 321; Humber ports, 279-81, 284, 285; Lancashire, 202, 235, 236; London, 419, 420, 424, 426, 427, 434, 444, 445; North-east coast, 179, 189, 190; railways, 458; roads, 35, 458; Scotland, 134, 135, 137, 149, 166, 454; shipping, 113; South-east, 392, 393; Stoke-on-Trent, 326, 332; Wales, 94, 95, 113, 115, 127, 129, 130, 454; West Midlands, 350, 352; West Riding, 261

Tredegar, 97, 100, 104

Treforest Trading Estate, 52, 103, 104, 111, 112, 196, 238, 459

Trent, 263, 265, 274, 284

Tube manufacture, 91, 296, 341, 346

Tweed industry, 166, 393

- Tynemouth, 192
 Tyneside, 171-6, 183, 185-7, 192, 219
 Type founding, 104
 Typewriters, 306, 309

 Umbrellas, 196, 363
 Unemployable, 34, 35
 Unemployed, 45, 48
 Unemployment, 1-4, 34, 35, 80, 82, 83, 451, 452, 456, 457, 458, 461, 467, 468, 473; concealed, 9; cyclical excess, xxvii, 7, 8, 13, 34; East Midlands, 286, 289, 300, 302, 304 315, 316, 319-22; excess, xxvii, 4, 6, 7, 8, 9, 12, 13, 34, 35, 84, 456, 457, 466; Humber ports, 282, 285; Lancashire, 202, 203, 209, 210, 213, 215, 218-20, 223, 224, 226-30, 232, 236, 237, 239, 240; London, 422, 423, 434, 436-8, 440, 442; North-east Coast, 167, 168, 170, 171, 174, 176-8, 180, 181, 183, 184, 186, 187, 188, 190, 191; Scotland, 131, 135-9, 142, 143, 147, 150, 151, 157, 158, 160, 161, 163-5; South-east, 389, 395, 401-4, 406, 408, 410, 412, 415; South-west, 359-61, 363, 367, 373-5, 377, 380, 381, 384; Stoke-on-Trent area, 324, 326, 330, 332; Wales, 87, 91, 96-8, 100, 101, 103, 104, 106, 107, 109-11, 114-17, 119, 120, 125, 129; West Cumberland, 195, 196, 198, 199; West Midlands, 334, 336, 337, 339, 345-7, 351, 354, 355, 357; West Riding, 242, 243, 248, 255-7, 262-4
 United Steel Companies, 193
 Universities and Development Councils, 462; *see also* Glasgow, Liverpool, Manchester, Oxford
 U.S.A., 118, 121; American tinplate products, 123; hosiery machines, 306, 318; motor industry, 350, 353; shipbuilding, 183; spinning of American cotton, 218, 221 (footnote) 252; women's shoes, 304
 U.S.S.R., 121, 148, 161, 182
 Utility production, 49, 160
 Uxbridge, 439

 Valentine & Sons, Ltd., 141
 Valves, 104, 244
 Vickers-Armstrong, 174, 186, 187, 209, 423, 437, 440

 Wakefield, 244, 245, 248, 253, 257
 Wales, 68, 87-130, 196, 225, 368, 457, 473; amenities, 65, 71; armaments, 53, 59, 459; dispersal, 61, 430, 443; employment and unemployment, 1-8, 6, 8, 35, 131, 151, 242, 264, 315, 320, 347; exports, 468, 469; industrial development, 59, 81, 83, 191, 261, 362, 390, 454, 460, 470, 472; industrial training, 13; migration, 39, 43, 67, 458, 459; National Industrial Development Council, 103, 115, 127, 128; personal service, 377; population, 267, 274, 276, 277, 280, 298, 400; trading estates, 179; transport, 166, 463; Treforest, *see under* Treforest; wartime-retail sales, 37; Welsh Reconstruction Advisory Council, 92, 94, 113, 114, 121, 124, 127; women's employment, 10, 51, 167, 196, 203
 Walsall, 339, 341
 Wandle, 425
 Warehouses, 70, 86, 236
 Warrington, 207, 213, 226, 227
 Warsop, 313
 Wartime controls, 49, 68
 Warwickshire, 3, 8, 299, 323, 333, 345, 353-5, 357, 399
 Wash, 53
 Watch and clock industry, 48, 262, 340, 420
 Water supply, 113, 284, 285, 400, 458
 Watford, 390, 392, 393
 Wedgwood, Josiah, & Sons, 327
 Wednesbury, 339 (footnote), 343, 346
 Wednesfield, 339
 Wellingborough, 10, 290, 291, 296
 Wellington, 334, 336
 Welwyn, 52, 390, 393
 Wembley, 434
 Wenlock, 336
 West Bromwich, 339 (footnote), 341, 347
 West Midlands, 333-58, 368, 452, 453
 West Midland Civil Defence Region 332, 333
 West Midland Group on Post-war Reconstruction and Planning, 76, 333, 348
 West Midlands Joint Town Planning Advisory Committee, 352
 Westmorland, 1, 3, 189, 200, 206 (footnote)
 Weymouth, 372
 Wheat. *See* Grain
When We Build Again (Bournville Village Trust), 62, 350
 Whitehaven, 193
 White Papers: Control of Land Use, 444; Cotton, 221 (footnote); Distribution of Industrial Population, 1; Employment Policy, xxv, xxvii, xxxii, xxxiii, 12, 15, 455, 473 (footnote); Export Trade, 14; Social Insurance, 454; War Effort, 14, 41, 44, 48

- Widnes, 225, 226
 Wigan, 207, 211, 213, 227, 228, 239
 Wigtown, 3
 Willenhall, 339, 347
 Wireless, 48, 191, 440
 Wire, wire rods, 226
 Wire rope, 150, 245
 Wirral Peninsula, 202
 Witney, 398
 Wollaston, 292
 Wolverhampton, 339, 341, 345, 346
 Wolverton, 299, 398, 399, 408
 Women's employment, 9, 10, 13, 34, 48, 50, 455, 456, 459, 460; East Midlands, 290, 296, 299, 301, 302, 307, 308, 315, 321; Humber ports, 276, 277, 284, 285; Lancashire, 203, 216, 229, 232, 233, 236, 238, 239; London, 424, 427, 430, 437, 443; North-east Coast, 167, 168, 174, 175, 178, 180, 181, 186, 187, 189-91; Scotland, 140, 142, 143, 149, 150, 155, 160, 161; South-east, 394, 403; South-west, 361-4, 386; Stoke-on-Trent, 326, 332; Wales, 103, 106, 109, 116, 117, 119, 125, 126; West Cumberland, 195-200; West Midlands, 337, 338, 355; West Riding, 248, 256, 257, 263, 264, 265
 Woodstock, 398
 Woodwork, saw-milling, 7, 36; 58, 90, 136, 137, 234, 273, 279, 375, 396, 420
 Woollens and worsted: blankets, 398; Humber ports, 268-70, 274-6, 278, 279; Lancashire, 233; London, 422, 431; National Wool Textile Corporation, 351; Scotland, 132; South-west, 362, 375; Wales, 90, 94; wartime, 1, 35; West Cumberland, 196; West Riding, 241-5, 247-52, 255, 264
 Woolwich, 437, 439
 Worcestershire, Worcester, 8, 333, 334, 338, 357, 453
 Workington Iron and Steel Co., 193, 197
 Worksop, 313
 World's Press News, 43
 Wrexham, 90, 91
 Wye, 105, 338
 Yorkshire, York, 167, 241, 243, 319; East Riding, 3, 8; North Riding, 6, 8, 167, 180; South Yorkshire, 2, 308, 323; West Riding, 3, 6, 8, 228, 232, 237, 241-65, 277, 303, 313, 320, 323, 381, 424, 431, 453, 457, 459, 469; West Yorkshire, 69
 Youth Hostels, 381
 Ystalyfera, 117
 Ystrad Mynach, 104
 Zinc, 125, 127
 Zipp-fasteners, 104

